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CANADA

Tariff Board

Report (by) *of*

THE TARIFF BOARD

in Reference[s].

Relative to the Inquiry Ordered

by the Minister of Finance

respecting

CHEMICALS

•

VOLUME 3

Goods in Existing Items

•

Reference No. 120

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Report by

THE TARIFF BOARD

ANNUAL REPORT FOR THE YEAR 1910

PRESENTED TO THE HOUSE OF REPRESENTATIVES

IN SENATE JANUARY 11, 1911

BY THE COMMISSIONER

JOHN D. BROWN, COMMISSIONER

1

WASHINGTON: GOVERNMENT PRINTING OFFICE: 1911



Report by
THE TARIFF BOARD

Relative to the Inquiry Ordered
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ROGER DUHAMEL, F.R.S.C.
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1967

THE TARIFF BOARD

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PANEL FOR THIS INQUIRY

L.C. Audette, Chairman
F.L. Corcoran
G.A. Elliott
Léo Gervais

The Honourable Mitchell Sharp, P.C., M.P.,
Minister of Finance,
Ottawa, Ontario.

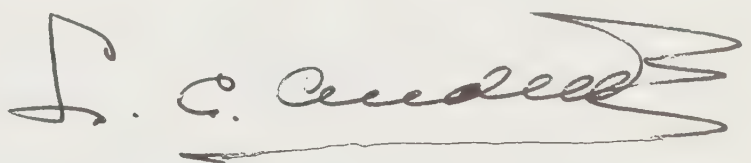
Dear Mr. Sharp:

I refer to Mr. Harris' letter of September 21, 1956 and to Mr. Fleming's letters of October 11, 1957 and December 21, 1959 in which the Tariff Board was requested to conduct an inquiry respecting chemicals.

In conformity with Section 6 of the Tariff Board Act, I have the honour to transmit Volume 3 of the Report of the Board, in English and in French. This volume contains a list of goods in the Existing Items. Further volumes will be forwarded to you as soon as they have been completed.

A copy of the transcript of the proceedings at the public hearings accompanied the first volume of the Report.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "J. C. Caudelle", with a long, horizontal, wavy flourish extending from the end of the name.

Chairman

CORRIGENDA TO VOLUME 1

The Board has prepared a list of corrigenda to Volume 1 of its Report on Reference 120 - Chemicals.

To report these corrigenda at the earliest possible moment, they are set out in the following three pages before the text of Volume 3; they may also be obtained separately from the Queen's Printer.

The reasons for the corrigenda will appear, where necessary in Volume 4, Summary and Conclusions.

CORRIGENDA TO THE ENGLISH TEXT
OF VOLUME 1

Page 22. Second column, opposite the second "Ex. 166" in the first column.

Delete "16600-2" and substitute "16600-3".

In Recommended Schedule

<u>Page</u>	<u>Recommended Item Number</u>	<u>Para- graph Number</u>	<u>Corrigenda</u>
32	R-5 203	..	Last line, after "nutgalls" add a semi-colon and "annatto pulp"
33	R-20 296b	(1)	Last line, delete "magnesia, n.o.p." and substitute "magnesia; magnesium oxide, n.o.p."
35	R-37	(6)	Delete "oxides" and substitute "oxide"
35	R-38	..	Delete "(barium oxide)"
35	After Recommended Item R-40, add the following Recommended Items: "R-40A Crude naphthalene Free Free 10" "R-40B Lubricant molybdenite powder Free 15 25"
47	29.01	(15)	Delete the text and rates and substitute "Deleted"
48	29.04	(5)	Delete "glycols" and substitute "glycol"
49	29.06	(4)	Delete "B.P. and U.S.P. grades" and substitute "medicinal grade"
51	29.14	(22)	Delete the text and rates and substitute "Deleted"
52	29.14	(48)	Delete "monomer"
53	29.15	(36)	Delete "acids" and substitute "acid"
54	29.16	(17)	Delete product description and substitute "3b-Hydroxy-5-cholenic acid"
57	29.23	(8)	Delete the text and rates and substitute "Deleted"

<u>Page</u>	<u>Recommended Item Number</u>	<u>Para- graph Number</u>	<u>Corrigenda</u>
57	29.23	(12)	Delete the text and rates and substitute "Deleted"
58	29.26	..	After paragraph (3), insert a new paragraph (3A) as follows: "(3A) Methenamine mandelate 10 15 25"
64	32.07	(2)	Delete the text and rates and substitute "Deleted"
64	32.07	(6)	Delete the text and rates and substitute "Deleted"
64	32.07	..	After paragraph (3), insert a new paragraph (3A) as follows: "(3A) Inorganic pigments other than those enumerated below in this item 10 15 25"
67	38.12	(2)	M.F.N. rate column; delete " $1\frac{1}{2}\%$ " and substi- tute "1%"
68	38.19	..	Line 3, delete text in the parentheses and substitute "(not including those consisting of mixtures of natural products other than compounded extenders for paints)"
73	39.03	(f)	Line 3, after "powder", insert "shreds"
73	39.03	(g)	Subparagraph 2, line 3, delete "base film for use in the manufacture of photographic film" and substitute "unsensitized film for use in the manufacture of sensitized photo- graphic film"
73	39.03	(g)	Subparagraph 3, line 3, delete "base film for use in the manufacture of photographic film" and substitute "unsensitized film for use in the manufacture of sensitized photo- graphic film"
75	R-41	..	Last column, last two lines, delete "of tariff item 156(7)" and substitute "of Recommended Item R-3 156(7)"
75	R-43	..	Column entitled "When Subject to Drawback", line 5, delete "R-30 (663b)" and substitute "R-31 663b"

In Appendix

Page 100 - Fourth product: Di-tert-butyl-para-cresol, column entitled "Recommended Rates".

Delete "Free" and substitute "10"

Page 148 - Last table: "Total of above imports for Reference 120".

Because the printed figures fail to include the imports listed on page 116, delete all the figures and substitute the following:

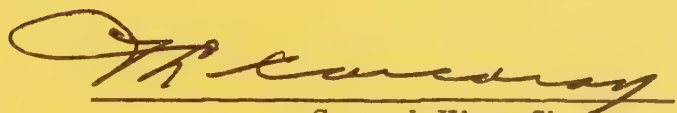
All countries	451,415	227,062	33,660.3	7.5	14.8
B.P.	32,923	7,054	975.4	3.0	13.8
M.F.N.	418,492	220,014	32,685.0	7.8	14.9
U.S.A.	375,365	199,731	29,571.6	7.9	14.8

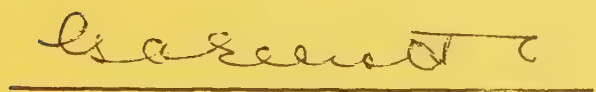
NOTE

The corrections to the Recommended Schedule should also be made in the Recommended Items and the notes thereto reproduced in Volume 2 because certain corrections may change the classification of some products in that volume.

The corrections should further be made in the Recommended Items reproduced in Appendix II to Volumes 5 and 6.


Chairman


Second Vice-Chairman


Member


Member

A Note on the Organization of the Report - Reference 120

The first four volumes of the Report by the Tariff Board respecting Reference 120, Chemicals, relate to the reference as a whole; the eleven volumes which follow (Volumes 5 to 15, inclusive) relate to the products which were the subject of the Board's inquiry. The principal subject matter of each of the volumes is given below in terms of the headings of the Brussels Tariff Nomenclature (B.T.N.). Occasionally, chemicals of different B.T.N. headings are dealt with together, for example, chlorine (28.01) and caustic soda (28.17); the more detailed tables of contents of the individual volumes indicate where this occurs.

To the extent that particular statistical tables could be related to specific products or B.T.N. headings they are included in the statistical appendix of the volume which deals with that product or heading. Some tables, which could be related only to broader groupings of chemicals, are included in the statistical appendix to the last volume dealing with such broader groupings: inorganic chemicals in Volume 7, organic chemicals in Volume 9 and artificial resins and plastics in Volume 15.

Because of the unprecedented amplitude and complexity of Reference 120 - Chemicals, many parts of Volumes 5 to 15 were written a considerable time before the first four volumes. This gives rise, occasionally, to apparent discrepancies, attributable to the passage of time, particularly between Volume 4 and those which follow.

Table of Contents for Volumes 1 to 15, inclusive

General Volumes

<u>Volume</u>	
1	Recommended Schedule
2	Goods in Recommended Items
3	Goods in Existing Items
4	General Considerations; Summary and Conclusions

Reports on Products

<u>Volume</u>	<u>General Description</u>	<u>B.T.N. Headings</u>
5	Inorganic Chemicals	25.01, 25.03, 28.01 to 28.17, and 28.54
6	Inorganic Chemicals	26.03 and 28.18 to 28.34
7	Inorganic Chemicals	25.32 and 28.35 to 28.58
8	Organic Chemicals	15.10, 15.11, 22.08, 22.09 and 29.01 to 29.13
9	Organic Chemicals	15.10 and 29.14 to 29.45
10	Fertilizers	Chapter 31
11	Dyes, Paints, Inks, Fillers	25.09 and 32.01 to 32.13
12	Detergents; Explosives	34.02, 36.01, 36.02
13	Misc. Chemicals & Preparations	37.08 and 38.02 to 38.19
14	Artificial Resins & Plastics	39.01 and 39.02
15	Artificial Resins & Plastics; Other Portions of Reference 120	39.03 to 39.07 -

Prefatory Note to Volume 3

1. (a) In this volume there appear those goods which have come to the attention of the Board, listed under the existing items from which they would be drawn, together with the Recommended Items to which they would be attracted, wholly or in part; the tabulations provide a cross-reference from the existing items in the Customs Tariff to the Board's Recommended Items.
- (b) In volume 2 the converse (subject to the corrigenda mentioned in subparagraph (c) below) was given; that is, these goods were listed under the Recommended Items to which they would be attracted.
- (c) The Recommended Schedule published in volume 1 is subject to certain corrigenda which change the classification of some products in volume 2; these corrigenda are published on preceding pages of the present volume.
2. (a) Lists of goods are tabulated only for the existing items believed to be affected by the Recommended Items; no list of goods is shown for any existing item whose coverage would be essentially unchanged by the recommended schedule. For example, existing item 851 would continue to provide duty-free entry for a number of chemicals tabulated in this volume but no list of goods is shown under tariff item 851.
- (b) The following is a list of the existing tariff items, within Reference 120, which are recommended for retention, essentially unchanged in coverage.

208e	210h	246d	262	316b
208x	220f	260	270	851
- (c) The goods of existing item 219a would be classified almost entirely in Recommended Item 38.11. No list of goods is shown under tariff item 219a; the goods that would be drawn from tariff item 219a are listed under Recommended Item 38.11 in volume 2 of the Board's Report.
3. Although the wording of existing items 269 and 711 would remain unchanged, their coverage would be altered to the extent that chemicals and allied products, now entered under them, would be classified in the Board's Recommended Items; items 269 and 711, therefore, are followed by lists of goods, cross-referenced to the Recommended Items to which they would be attracted.
4. The tabulations enumerate those goods which came to the Board's attention but obviously cannot exhaust the list of all chemicals.
5. The existing tariff items are numbered as they were prior to the Customs Tariff Renumbering Order, 1965-1; the present numbers are shown in brackets following the former number.

6. The Recommended Items together with the recommended rates are listed in Appendix 1; unless otherwise indicated the rates of duty are per cent ad valorem.
7. * Indicates an existing tariff item which is not part of Reference 120, but from which there is a relocation of product.

GOODS IN
EXISTING ITEMS

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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*11 (1100-1)

Rennet, raw and prepared:

Free Free Free

Rennet (lab-ferment; chymosin; rennin; rennase)

29.40(7)

Free Free Free

Raw rennet of tariff item*11, not qualifying for entry under Rec. Item 29.40(7), would be classified in tariff item 711. Rennet of Rec. Item 29.40(7) would be relocated to retain the full meaning of Rec. Item 29.40.

Imports under this item are reported to have been about \$385,000 in 1964 and \$447,000 in 1965, all from M.F.N. countries.

*39(ii) (3910-1)

Starch, and all preparations having the quality

of starch, n.o.p., per pound

1ø 1ø 2ø

When in packages weighing two pounds each, or less, the weight of such packages to be included in the weight for duty:

Preparations of Rec. Item 38.12 having the quality of starch

38.12(2) per pound 1ø 1ø 2ø

This provision would be relocated to retain the full meaning of Rec. Item 38.12. Item *39(ii) would remain otherwise unchanged.

Imports under this item are estimated to have been about \$3 million in 1965, almost all from M.F.N. countries. The proportion relocated under Rec. Item 38.12(2) is probably small.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*39e (3935-1)</u>			
Rosin sizing:	5 7½ 10	38.12(4)	5 7½ 10

This provision would be relocated to retain the full meaning of Rec. Item 38.12.

Imports under this item are reported to have been \$981,000 in 1964 and about \$723,000 in 1965, almost all from M.F.N. countries.

*40 (4000-1)

Salt for the use of the sea or gulf fisheries:	Free Free Free	25.01(2)	Free Free Free
--	----------------------	----------	----------------------

This provision would be relocated to retain the full meaning of Rec. Item 25.01.

Imports under this item are estimated to have been less than one quarter of a million dollars in 1965, about 80 per cent from M.F.N. countries.

41 (4100-1)

Salt, n.o.p., in bags, barrels and other coverings:
per one hundred pounds

Free	3½¢	7½¢
------	-----	-----

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>41 (4100-1) (Cont'd)</u>			
Salt (sodium chloride), in bags, barrels and other coverings		25.01(1) per 100 pounds	Free 3¢ 5¢
<p><u>Imports under this item are estimated to have been about half a million dollars in 1964 and somewhat less in 1965, virtually all from M.F.N. countries. The specific rate of duty appears to have been equivalent to about 18 per cent in 1964 and 3 per cent in 1965.</u></p>			
<u>42 (4200-1)</u>			
Salt, in bulk, n.o.p.: per one hundred pounds	Free 3¢ 5¢		
Salt liquors and sea water		25.01(4) per 100 pounds of pounds of contained salt	Free 3¢ 5¢
Salt (sodium chloride), in bulk		25.01(1) per 100 pounds	Free 3¢ 5¢

Imports under this item are estimated to have been less than \$2 million in 1965, nearly double those of 1964. By far the greater part has come from M.F.N. countries and the specific rate of duty appears to have been equivalent to about 12 per cent in 1964 and over 15 per cent in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*42a (4205-1)</u>			
Table salt made by an admixture of other ingredients, when containing not less than ninety per cent of pure salt:	5 10 15	25.01(3)	5 10 15
<u>This provision would be relocated to retain the full meaning of Rec. Item 25.01.</u>			
Imports under this item are estimated to have been less than half a million dollars in 1964 and less than \$100,000 in 1965, all from M.F.N. countries.			
<u>*90f (9035-1)</u>			
Vegetable materials for use as colourings or flavourings:	10 10 25		
Vegetable materials for use as edible colourings		32.04(2)	10 10 25
Vegetable materials for use as flavourings		R-1 *90f	10 10 25
<u>Imports under this item are estimated to have been about one million dollars in 1964 and in 1965, practically all from M.F.N. countries.</u>			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
*153b (15310-1)			
Papaine:	Free 5		17½
Papain (papayotin; vegetable pepsin)		29.40(5)	Free 5 17½

This provision would be relocated to retain the full meaning of Rec. Item 29.40.

Imports under this item are reported to have been about \$161,000 in 1964 and \$159,000 in 1965; almost all from M.F.N. countries.

156(f) (15630-1)

Ethyl alcohol, or the substance commonly known as alcohol, hydrated oxide of ethyl or spirits of wine, n.o.p.; spirituous or alcoholic liquors, n.o.p.; absinthe, arrack or palm spirit, artificial brandy and imitations of brandy, n.o.p.; cordials of all kinds, n.o.p.; mescal, pulque, rum shrub, schiedam and other schnapps; tafia, and alcoholic bitters or beverages, n.o.p.; and wines, n.o.p., containing more than forty per cent of proof spirit per gallon of the strength of proof and in addition thereto, under all tariffs, \$5.00 \$10.00 \$10.00 \$10.00
\$9.00 per gallon of the strength of proof

When the goods specified in item 156 are of greater or less strength than the strength of

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>156(f) (15630-1) (Cont'd)</u> proof, the measurement thereof and the amount of duty payable thereon shall be increased or decreased in proportion for any greater or less strength than the strength of proof. Various specified potable alcohols per gallon of the strength of proof		R-2 156(6)	\$5.00 \$10.00 \$10.00 and in addition there- to, under all tariffs, \$9.00 per gallon of the strength of proof
Ethyl alcohol, denatured or specially denatured, in accordance with the Excise Act per gallon of the strength of proof		R-3 156(7)(c)	10¢ 20¢ 40¢ and in addition there- to, under all tariffs, a rate of duty equal to the rate of duty appli- cable under the Excise Act to such alcohol if manufactured in Canada and sold or used in Canada

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>156(f) (15630-1) (Cont'd)</u>			
Ethyl alcohol, denatured otherwise than in accordance with the Excise Act per gallon of the strength of proof		R-3 156(7)(b)	\$5.00 \$10.00 \$10.00 and in addition there- to, under all tariffs, \$9.00 per gallon of the strength of proof
Ethyl alcohol for potable use per gallon of the strength of proof		R-3 156(7)(a)	\$5.00 \$10.00 \$10.00 and in addition there- to, under all tariffs, \$9.00 per gallon of the strength of proof
Ethyl alcohol, n.o.p. per gallon of the strength of proof		R-3 156(7)(c)	10ø 20ø 40ø and in addition there- to, under all tariffs, a rate of duty equal to the rate of duty applicable under the Excise Act to such al- cohol if manufactured in Canada and sold or used in Canada

In certain specified circumstances, Rec. Item R-41 would provide a drawback of Excise Duty on imported alcohol. Imports under this item are estimated to have been negligible in 1964 and under \$50,000 in 1965, practically all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
157 (15700-1)			
Ethyl alcohol, when imported by the Department of National Revenue or by a person licensed by the Minister, to be denatured for use in the arts and industries, and for fuel, light and power, to be entered at ports prescribed by regulation of the Minister, subject to the Excise Act and to the regulations of the Department of National Revenue:	Free Free Free		
Ethyl alcohol per gallon of the strength of proof		R-3 156(7)(c)	10¢ 20¢ 40¢ and in addition there- to, under all tariffs, a rate of duty equal to the rate of duty applicable under the Excise Act to such al- cohol if manufactured in Canada and sold or used in Canada
<u>There are no known imports under this item.</u>			
157a (15705-1)			
Amyl alcohol	Free Free Free		
Amyl alcohols (Amyl hydrate)		29.04(2)	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>157a (15705-1) (Cont'd)</u>			
Fusel oil		38.19(7)	Free Free 15
<u>Imports under this item are estimated to have been about a quarter of a million dollars in 1965, all from M.F.N. countries.</u>			
<u>157c (15715-1)</u>			
Isopropyl alcohol: per gallon	Free 25¢ \$1.00		
Isopropyl alcohol (IPA; dimethylcarbinol; isopropanol; 2-propanol; sec-propyl alcohol)		29.04(7)	10 15 25
<u>Imports under this item are estimated to have been negligible in 1964 and in 1965.</u>			
<u>157e (Cancelled)</u> Expired 31/12/57			
<u>158 (15800-1)</u>			
Methyl alcohol, subject to the provisions of the Excise Act, and regulations: per proof gallon	20¢ 20¢ 20¢		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>158 (15800-1) (Cont'd)</u>			
Methyl alcohol (carbinol; methanol; wood alcohol)		29.04(8)	5 10 20
Naphtha, wood		38.09	Free Free Free

Imports under this item are estimated to have been small in 1964 and in 1965; all were from M.F.N. countries. The specific rate appears to have been equivalent to more than 40 per cent.

158a (15805-1)

Methyl alcohol for use exclusively in the manufacture of formaldehyde, subject to the provisions of the Excise Act, and regulations thereunder:

Free Free Free

Methyl alcohol (carbinol; methanol; wood alcohol)

29.04(8) 5 10 20

Imports under this item are estimated to have been less than half a million dollars in 1965, all from M.F.N. countries.

158b (15810-1)

Mixtures of methyl alcohol and other ingredients, when imported by tanners for use

<u>Existing</u> <u>Rates</u>	<u>Recommended</u> <u>Items</u>	<u>Recommended</u> <u>Rates</u>
---------------------------------	------------------------------------	------------------------------------

158b (15810-1) (Cont'd)

exclusively as a solvent for dyes for the dyeing of leather in their own factories: per proof gallon

5¢	5¢	20¢
----	----	-----

Mixtures of methyl alcohol and other ingredients as solvents for leather dyes

38.19(1)	10	15	25
----------	----	----	----

There are no known imports under this item.

*159b (15910-1)

Nitrous ether, sweet spirits of nitre and aromatic spirits of ammonia:

\$3.00	\$3.00	\$3.00
30	30	30

per gallon and

R-4 *159b	per gallon	\$3.00	\$3.00	\$3.00
	and	30	30	30

Other than the following

29.18(3)	per gallon	\$3.00	\$3.00	\$3.00
	and	30	30	30

Ethyl nitrite (nitrous ether)

This provision would be relocated to preserve the meaning of Rec. Item 29.18. Sweet spirits of nitre and aromatic spirits of ammonia would be in Rec. Item R-4 *159b.

Imports under this item are estimated to have been negligible in 1964 and in 1965.

<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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Existing Item

166 (16600-1)

Acetone and amyl acetate:
 See Ex.166 (16600-2)
 and Ex.166 (16600-3)

Imports under this item are estimated to have been small in 1964 and over a quarter of a million dollars in 1965, all from M.F.N. countries.

Ex.166 (16600-2)

Acetone:

Acetone (dimethylketone; ketopropane;
 2-propanone; pyroacetic ether)

5 25 30

29.13(2) 10 15 25

Imports under this item are estimated to have been small in 1964 and less than \$100,000 in 1965, all from M.F.N. countries.

Ex.166 (16600-3)

Amyl acetate:

10 25 30

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>Ex.166 (16600-3) (Cont'd)</u>			
Amyl acetate (amyl acetic ester; banana oil; pear oil)		29.14(1)	Free 15 25
		29.14(30)	Free 7½ 7½
Isoamyl acetate		29.14(1)	Free 15 25
<u>Imports under this item are estimated to have been small in 1965; all were from M.F.N. countries.</u>			
<u>*168 (16800-1)</u>			
Malt flour containing less than fifty per centum in weight of malt; malt syrup or malt syrup powder, n.o.p.; extracts of malt, fluid or not; grain molasses - all articles in this item upon valuation without British or foreign excise duties, under regulations prescribed by the Minister:	20 25 35		
and, per pound	- 5ø 10ø		
Diastase (see malt amylases)			
Malt amylases		29.40(1)	Free 15 25

The provision for this product under Rec. Item 29.40 would be required by the wording of that item as opposed to item *168. Item *168 remains unchanged in wording.

Imports under this item are estimated to have been about \$50,000 in 1965, about 65 per cent from B.P. countries. The proportion falling under Rec. Item 29.40(1) would probably be small.

Existing Rates	Recommended Items	Recommended Rates
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Existing Item

203 (20300-1)

Non-edible seeds, beans, nuts, berries, plants, weeds, barks, and woods, in a crude state or chipped or ground, and extracts and preparations thereof, all of the foregoing when adapted for dyeing or tanning; turmeric, nutgalls and extracts thereof; indigo, indigo paste and extracts of; aniline oil, crude; aniline salts, alizarin and artificial alizarin; annatto, liquid or solid; iron liquor, being solution of acetate or nitrate of iron adapted for dyeing and calico printing; red liquor, being a crude acetate of aluminum prepared from pyroligneous acid and adapted for dyeing and calico printing:

Free	Free	Free
------	------	------

Alizarin, artificial
 Alizarin, natural (extract of madder)
 Aniline (aminobenzene; aniline oil; phenylamine)
 Aniline salts, being dyestuffs
 Annatto, liquid or solid, for use as edible colouring
 Annatto, liquid or solid, non-edible for colouring or dyeing
 Annatto pulp
 Cellulose pitch
 Chestnut tanning extract
 Chlorophyll
 Colouring materials and dyeing extracts obtained from alkenna
 Colouring materials and dyeing extracts obtained from black cutch (acacia catechu)

32.05(1)	Free	Free	10
32.04(1)	Free	Free	Free
29.22(2)	10	15	25
32.05(1)	Free	Free	10
32.04(2)	10	10	25
32.04(1)	Free	Free	Free
R-5 203	Free	Free	Free
38.06	10	15	25
32.01	Free	Free	Free
32.04(1)	Free	Free	Free
32.04(1)	Free	Free	Free
32.04(1)	Free	Free	Free
32.04(1)	Free	Free	Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>203 (20300-1) (Cont'd)</u>			
Colouring materials and dyeing extracts obtained from Brazil wood		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from Cuba wood		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from fustic wood		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from henna		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from Lima wood		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from logwood (haematin; haematoxylin)		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from Pernambuco wood		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from Persian berries		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from quercitron wood		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from sandalwood		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from tampico wood		32.04(1)	Free Free Free
Copper-chlorophyll		32.04(1)	Free Free Free
Divi-divi tanning extract		32.04(1)	Free Free Free
Gallic acid (3,4,5-trihydroxybenzoic acid)		32.01	Free Free Free
Gall-nut tannin (gallo-tannic acid)		29.16(16)	Free Free Free
Gambier tanning extract		32.02(1)	Free Free Free
Indigo, indigo paste and extracts of indigo		32.01	Free Free Free
		32.05(1)	Free Free 10

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>203 (20300-1) (Cont'd)</u>			
Lignosulphonates		38.06	10 15 25
Mangrove tanning extract		32.01	Free Free Free
Mordants, prepared i.e. iron liquor and red liquor		38.12(3)	Free Free Free
Myrobolans tanning extract		32.01	Free Free Free
Non-edible seeds, beans, nuts, berries, plants, weeds, barks and woods, in a crude state or chipped or ground, when adapted for tanning or dyeing		R-5 203	Free Free Free
Nutgalls		R-5 203	Free Free Free
Oak tanning extract		32.01	Free Free Free
Oenin		32.04(1)	Free Free Free
Pines tanning extract		32.01	Free Free Free
Quebracho tanning extract		32.01	Free Free Free
Sodium-chlorophyll		32.04(1)	Free Free Free
Sulphite lye, concentrated		38.06	10 15 25
Sulphite pitch		38.06	10 15 25
Sumach tanning extract		32.01	Free Free Free
Tannates and other tannin derivatives of glycosides		29.41(1)	Free 15 25
Tannates and other tannin derivatives of vegetable alkaloids		29.42(1)	Free 15 25
Turneric		R-5 203	Free Free Free
Turneric, extracts of, for use as edible colouring		32.04(2)	10 10 25
Turneric, extracts of, non-edible		32.04(1)	Free Free Free
Vallonia tanning extract		32.01	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>203 (20300-1) (Cont'd)</u>			
Vandyke brown, imitation		32.04(1)	Free Free Free
Wattle (mimosa) tanning extract		32.01	Free Free Free
<u>Imports under this item are estimated to have been nearly \$1.5 million in 1965, about 85 per cent from M.F.N. countries.</u>			
<u>203a (20305-1)</u>			
Chemical compounds composed of two or more acids or salts soluble in water, adapted for dyeing or tanning:	Free Free 10		
Ammonium chromium sulphate (chrome ammonium alum)		28.38(1)	Free 15 25
Cellulose pitch		38.06	10 15 25
Chromium potassium sulphate (chrome alum; chrome potash alum)		28.38(8)	Free Free 10
Chromium sulphate, basic		28.38(9)	Free Free 10
Lignosulphonates		38.06	10 15 25
Mordants, prepared		38.12(3)	Free Free Free
Sodium dithionite (sodium hydrosulphite; sodium hyposulphite)		28.36(2)	Free Free Free
Sodium formaldehyde naphthalene sulphonates		32.03(2)	10 15 25
Sodium formaldehyde sulphonylate		28.36(3)	Free Free Free
Sulphite lye, concentrated		38.06	10 15 25
Sulphite pitch		38.06	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
203a (20305-1) (Cont'd)			
Synthetic organic dyestuffs, composed of two or more acids or salts		32.05(1)	Free 10
Tanning substances, synthetic, whether or not mixed with natural tanning materials		32.03(1)	Free Free
Zinc dithionite (zinc hydrosulphite)		28.36(4)	Free Free
Zinc formaldehyde sulphoxylate		28.36(5)	Free Free

Imports under this item are estimated to have been about \$4 million in 1965, approximately two-thirds from M.F.N. countries.

203b (20310-1)

Aniline and coal tar dyes, adapted for dyeing, in bulk, or in packages of not less than one pound weight:

	Free	Free	10
Aniline and coal tar dyes, in bulk, adapted for dyeing		32.05(1)	Free 10
Pararosaniline pulps		32.05(1)	Free 10
Synthetic organic optical bleaching agents, substantive to the fibre, in bulk		32.05(1)	Free 10

Imports under this item are estimated to have been nearly \$17 million in 1965, more than 85% from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>203c (20315-1)</u>			
Solutions of aniline dyes with or without dissolving salts, adapted for dyeing, for use in Canadian manufactures:	Free Free 10	32.05(1)	Free Free 10
<u>Imports under this item are estimated to have been about half a million dollars in 1965, virtually all from M.F.N. countries.</u>			
<u>203d (20320-1)</u>			
Pigments, with or without dispersing agents, whether or not in aqueous dispersion, binders therefor; inks, binders therefor; all for use in the coating, colouring or printing of textiles:	Free Free 25		
Ceric sulphate (cerium sulphate)		28.52(1)	Free 15 25
Cobaltous tungstate (cobalt tungstate; cobalt wolframate)		28.47(1)	Free 15 25
Dry inorganic colours and pigments: when used for the colouring of textiles		32.07(3A)	10 15 25
Glazings and dressings, prepared, for use in the coating, colouring and printing of textiles		38.12(1)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>203d (20320-1) (Cont'd)</u>			
Ink adapted for colouring textiles		32.13	10 15 25
Pigment dyestuffs with or without dispersing agents, whether or not in aqueous dispersions, for use in the coating, colouring or printing, of textiles		32.05(4)	10 15 25
Sodium metavanadate		28.47(1)	Free 15 25
Titanium whites, not including pure titanium dioxide		32.07(7)	Free 12½ 25
Ultramarine		32.07(8)	Free 10 15

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Binders for pigments and inks would be classified under the appropriate Recommended Item or elsewhere in the Tariff according to their composition.

Imports under this item are estimated to have been nearly \$1.5 million in 1965, nearly all from M.F.N. countries.

203e(20325-1)

Coal tar bases or salts in solvents for use in the manufacture of coal tar dyes in the dyeing of textiles:

Free Free 25

Coal tar dye intermediates in solvents

38.19(6)

Free Free 15

Imports under this item are estimated to have been small in 1965, and to have come equally from B.P. and M.F.N. countries.

Existing Item
203f (20330-1)

Coal tar bases or salts with or without surface active agents for use in the manufacture of coal tar dyes

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
Free	Free	Free

Acenaphthene (ethylene-naphthalene, naphthyleneethylene) 29.01(1)
 Acetanilide (antifebrin; N-phenyl-acetamide) 29.25(1)
 Acetoacetanilide (acetylacetanilide) 29.25(1)
 Acetoacet-o-anisidide (o-aceto acetanilidine; aceto-acetic-o-anisidine) 29.25(1)
 Acetoacet-o-chloranilide (aceto-acetanilide-o-chloro; aceto-acetic-o-chloroanilide) 29.25(1)
 Acetoacet-o-toluidide 29.25(1)
 Aminoanthraquinones 29.23(1)
 p-Aminoazobenzene (aniline yellow; phenylazoaniline) 29.28
 Aminoazobenzenesulphonic acid 29.28
 Aminoazonaphthalene 29.28
 Aminobenzaldehydes 29.23(1)
 m-Aminobenzene sulphonic acid (metalinic acid; meta-sulphanilic acid) 29.22(1)
 p-Aminobenzene sulphonic acid (see sulphanilic acid)
 Aminobenzoic acids (ortho-, meta-, para-) 29.23(1)
 Aminocresols 29.23(1)
 Aminodichlorobenzoic acid 29.23(1)
 8-Amino-1-naphthol-3,6-disulphonic acid (1-amino-8-naphthol-3,6-disulphonic acid; H acid) 29.23(1)
 7-Amino-1-naphthol-3-sulphonic acid (2-amino-8-naphthol-6-sulphonic acid; gamma acid) 29.23(1)
 6-Aminonaphthylene-2-sulphonic acid 29.22(1)
 Aminophenol (hydroxyaniline) 29.23(1)
 Aminosalicylic acids (aminohydroxybenzoic acids) 29.23(1)
 Aniline (aminobenzene; aniline oil; phenylamine) +29.22(2)
 Anisidine (aminoanisoie; methoxyaniline) 29.23(1)
 Anthraquinone 29.13(1)
 Azobenzene (diphenyldiimide; benzene-azobenzene) 29.28
 Azoic coupling components and azoic diazo components mixed together, with or without surface-active agents or solvents +32.05(1)

Recommended Item

Except for (+) items, recommended rates are:

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
Free	15 p.c.	25 p.c.

For (+) items, see rates listed in Appendix I.

Existing Item
203f (20330-1) (Cont'd)

Recommended Item

Azoisobutyronitrile	29.28
Azonaphthalene	29.28
Azotoluene	29.28
p-Azoxyanisole	29.28
Azoxybenzene	29.28
Azoxybenzoic acid	29.28
Azoxycinnamic acid	29.28
p-Azoxyphenetole	29.28
Azoxytoluene	29.28
Azoxytoluidine (diaminoazoxytoluene)	29.28
Benzaldehyde (benzene carbonal; benzoic aldehyde; benzoyl hydride; synthetic oil of bitter almond)	29.11(1) 29.13(1)
Benzanthrone	
Benidine (benidine base; para-diamino- diphenyl)	29.22(1)
Benzonitrile (phenyl cyanide)	29.27(1)
para-Benzoquinone (quinone)	29.13(1)
Benzotrichloride (benzenyl trichloride, benzoic trichloride; phenyl chloroform, toluene trichloride)	29.02(1)
Benzylchloride (alpha chlorotoluene)	29.02(1)
N-sec-Butyl-N'-phenyl-p-phenylenediamine	+29.22(3)
2-Chloro-4-aminotoluene-5-sulphonic acid	29.22(1)
2-Chloro-5-aminotoluene-4-sulphonic acid	29.22(1)
o-Chloro-p-nitroaniline (2-chloro-4- nitroaniline)	29.22(1)
p-Chloro-o-nitroaniline	29.22(1)
Cresidine (m-amino-p-cresol methyl ether)	29.23(1)
Cresotic acid (cresotinic acid; hydroxy- toluic acid)	29.16(1)
Cyclohexylamine (aminocyclohexane; hexahydroaniline)	29.22(1)
Dehydrothioparatoluidine (2-(para- aminophenyl)-6-methylbenzothiazole)	29.35(1) 29.23(1)
Diaminoanthraquinones	
1,2-Diaminoethane (see ethylenediamine)	29.23(1)
Diaminophenols	
Dianisidine (di-p-aminodi-m-methoxydiphenyl; 3,3'-dimethoxybenzidine)	29.23(1)
Diazoaminobenzene (diazobenzeneanilide; benzeneazoanilide)	29.28
para-Diazobenzenesulphonic acid	29.28
Diazosalicylic acid	29.28
Dibutylamine	29.22(1)
N,N'-Di-sec-butyl-p-phenylenediamine	+29.22(4)
2,5-Dichloroaniline	29.22(1)
para-Dichlorobenzene (PDB; 1,4-dichloro- benzene)	+29.02(6)
3,3'-Dichlorobenzidine	29.22(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>203f (20330-1) (Cont'd)</u>	
Diethylamide of pyridine - betacarboxylic acid (see nikethamide)	
Diethylaniline	29.22(1)
N,N'-di-isopropyl-p-phenylenediamine	+29.22(6)
Dimethylamine (DMA)	29.22(1)
Dimethylaminoazobenzene (methyl yellow; butter yellow)	29.28
N-(1,3-Dimethyl butyl)-N'-phenyl-p-phenylenediamine	+29.22(7)
Dimethylnitrosamine	29.22(1)
Dimethylnitrosoaniline	29.22(1)
Diphenylamine (DPA; phenylaniline)	+29.22(8)
N,N'-Diphenyl-p-phenylenediamine	+29.22(9)
Ethylamine (aminoethane)	29.22(1)
Ethylenediamine (1,2-diaminoethane)	29.22(1)
N-Ethyl morpholine	29.35(1)
alpha-Hydroxyanthraquinone	29.13(1)
3-Hydroxy-2-naphthoic acid (beta-hydroxy-naphthoic acid; 3-naphthol-2-carboxylic acid; beta-oxynaphthoic acid)	29.16(1)
b-Hydroxynaphthoic anilide (naphthol AS; b-oxynaphthoic anilide)	29.25(1)
b-Hydroxynaphthoic-p-chloranilide (naphthol AS-E)	29.25(1)
b-Hydroxynaphthoic-m-nitranilide (naphthol AS-BS)	29.25(1)
b-Hydroxynaphthoic-o-toluidide (naphthol AS-D)	29.25(1)
Iso propylquinoline	29.35(1)
Isoquinoline	29.35(1)
Methylamine (monomethylamine)	29.22(1)
Methyldiazoaminobenzene	29.28
N,N'-bis(Methylheptyl)-p-phenylenediamine	29.22(1)
Methylnitrosoaniline	29.22(1)
3-Methyl-1-phenyl-5-pyrazolone (see 1-phenyl-3-methyl-5-pyrazolone)	
1,4-Naphthaquinone	29.13(1)
Naphthols (hydroxynaphthalenes)	29.06(1)
Naphtholsulphonic acids	29.07(1)
b-Naphthylamine	29.22(1)
1-Naphthylamine-2-sulphonic acid	29.22(1)
2-Naphthylamine-1-sulphonic acid (2-amino-1-naphthalene sulphonic acid; Tobias acid)	29.22(1)
Nikethamide (N,N-diethylnicotinamide; pyridine-3-carboxylic acid, diethylamide)	29.35(1)
Nitroaniline (nitranilines)	29.22(1)
m-Nitro-o-anisidine	29.23(1)
m-Nitro-p-anisidine	29.23(1)
Nitrosoanilines	29.22(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>203f (20330-1) (Cont'd)</u>	
m-Nitro-o-toluidine	29.22(1)
m-Nitro-p-toluidine (3-nitro-4-toluidine)	29.22(1)
p-Nitro-o-toluidine (4-nitro-2-toluidine)	29.22(1)
Octyl phenol (di-isobutyl phenol)	29.06(1)
b-Oxynaphthoic acid (see 3-hydroxy-2-naphthoic acid)	
Phenanthrene (phenanthrin)	29.01(1)
Phenanthrenequinone (phenanthraquinone)	29.13(1)
Phenetidines (aminophenetoles)	29.23(1)
Phenothiazine (thiodiphenylamine)	29.35(1)
1-Phenyl-3-carbethoxy-5-pyrazolone	29.35(1)
Phenylacetamide (see acetanilide)	
Phenyldiazonium chloride	29.28
Phenyldiazonium hydroxide	29.28
Phenylenediamine (diaminobenzene)	29.22(1)
Phenylhydrazine (hydrazinobenzene)	29.29
1-Phenyl-3-methyl- 5-pyrazolone (3-methyl-1-phenyl-5-pyrazolone)	29.35(1)
Phenyl-a-naphthylamine	29.22(1)
ortho-Phenylphenol (ortho-hydroxydiphenyl; ortho-xenol)	29.06(1)
para-Phenylphenol (para-hydroxydiphenyl; para-xenol)	29.06(1)
Sodium methyl taurine	29.22(1)
Sulphanilic acid (para-aminobenzene-sulphonic acid; para-anilinesulphonic acid)	29.22(1)
Tetramethyldiaminobenzhydrol (tetramethyl-diaminophenyl-carbinol; hydrol; Mickler's hydrol)	29.23(1)
Toluidine (aminotoluene)	29.22(1)
p-Toluidine-m-sulphonic acid (2-aminotoluene-5-sulphonic acid; 4-amino-meta-toluenesulphonic acid)	29.22(1)
Tolylenediamines	29.22(1)
Triphenylmethane	29.01(1)
Xylidine	29.22(1)

Imports under this item are estimated to have been nearly \$1.5 million in 1965, practically all from M.F.N. countries.

Existing Item

203g (20335-1)

Solutions of dyes containing methyl alcohol for use exclusively in the colouring of coated surfaces:

per gallon
and

$$\begin{array}{r} 54 \\ 54 \\ \hline \$3.00 \\ 30 \end{array}$$

Solutions of pigment dyestuffs containing methyl alcohol for use in the colouring of coated surfaces

 $32.05(4)$

10	15	25
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Solution of dyes containing methyl alcohol,
for colouring coated surfaces

32.09(1)

10 15 25

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Imports under this item are estimated to have been small in 1964 and 1965, all from M.F.N. countries. The specific rate of duty appears to have been equivalent to about 1.5 per cent in 1965.

Existing Rates	Recommended Items
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Recommended Rates

Recommended Rates

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
*206 (20600-1)			
Dragon's blood; fuller's earth, in bulk only, not prepared for toilet or other purposes; litmus and all lichens, prepared or not prepared; musk, in pods or in grain; quassia juice; saffron, saffron cake, safflower, and extracts of; quinine, salts of; cochineal; ferment cultures to be used in butter-making:	Free		Free
Other than the following		R-6 *206	Free Free Free
Quinidine, salts of, include quinidine sulphate		29.42(3)	Free Free Free
Quinine, salts of, include quinine hydrochloride and quinine sulphate		29.42(4)	Free Free Free
Safflower, extracts of		32.04(1)	Free Free Free
Saffron (crocus; French saffron; Spanish saffron), extracts of		32.04(1)	Free Free Free

Extracts of saffron, saffron cake and safflower, for use as edible colourings, would be in Rec. Item 32.04(2) at rates of 10 p.c., 10 p.c. and 25 p.c.

Imports under this item are estimated to have been more than half a million dollars in 1965, practically all from M.F.N. countries. The proportion of imports under this item that would become dutiable is probably very small.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*206f (20650-1)</u>			
Dried blood, n.o.p. New Zealand Trade Agreement -	5 7½ 10		
Blood meal dried and ground, other than soluble		31.00(1)	Free Free Free

Provision for this product would only be altered when it is for use as a fertilizer; otherwise item *206f would be unchanged.

There are no known imports under this item.

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<u>*206h (20660-1)</u>			
Dried blood, soluble New Zealand Trade Agreement -	Free Free Free		
Blood meal dried and ground, soluble		31.00(1)	Free Free Free

This product would be relocated only when for use as a fertilizer; otherwise item *206h would be unchanged.

Imports under this item are estimated to have been about \$50,000 in 1965, all from M.F.N. countries.

<u>207 (20700-1)</u>			
Bicarbonate of soda	Free 12½ 25		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>207 (20700-1) (Cont'd)</u>			
Sodium bicarbonate		28.42(6)	Free 12½ 20
<u>Imports under this item are estimated to have been about half a million dollars in 1964 and in 1965, about 80 per cent from M.F.N. countries.</u>			
<u>207a (20705-1)</u>			
Butyl alcohol, n.o.p.	Free 20 25		
Butyl alcohols (butanols)		29.04(3)	10 15 25 39
<u>Imports under this item are estimated to have been about \$1.5 million in 1965, practically all from B.P. countries.</u>			
<u>207b (20710-1)</u>			
Ethylene glycol, for use in the manufacture of explosives	Free Free Free		
Ethylene glycol (ethanediol; ethylene alcohol; glycol)		29.04(5)	10 10 25

There are no known imports under this item.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>207c (20715-1)</u>			
Ethylene glycol, and mixtures of ethylene glycol and other glycols in which ethylene glycol predominates, for use in the manufacture of anti-freezing compounds:	10 10 25		
Ethylene glycol (ethanediol; ethylene alcohol; glycol)		29.04(5)	10 10 25
Mixtures of ethylene glycol and other glycols in which ethylene glycol predominates, for use in the manufacture of anti-freezing compounds		38.19(9)	10 10 25

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Imports under this item are estimated to have been about half a million dollars in 1965, all from M.F.N. countries.

207d (20720-1)

Anti-freezing compounds, ethylene glycol based: 15 15 25 15 15 25

Imports under this item are estimated to have been about a quarter of a million dollars in 1965, all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208 (20800-1)</u>			
Ammonium sulphate;			
Antimony salts, namely: tartar emetic, chloride and lactate (antimonine);			
Argols;			
Arsenious oxide;			
Boracic acid and borax in packages of not less than twenty-five pounds in weight;			
Bromine;			
Carbon bisulphide, n.o.p.;			
Cyanide of calcium;			
Cyanide of potassium;			
Cyanide of sodium;			
Cyanogen bromide;			
Hydrofluosilicic acid;			
Iodine crude;			
Precipitate of copper (crude);			
Sulphide of arsenic;			
Sulphur and brimstone, crude or in roll or flour;			
Tannic acid;			
Verdigris or sub-acetate of copper, dry:	Free Free Free		
Ammonium sulphate		31.00(2)	Free Free Free
Antimony lactate (antimonine)		29.16(2)	Free Free Free
Antimony pentachloride (antimony perchloride)		28.30(3)	Free Free Free
Antimony potassium tartrate (potassium antimonyl tartrate; tartar emetic; tartarated antimony)		29.16(3)	Free Free Free
Antimony trichloride (antimonous chloride; anti- mony chloride; butter of antimony; caustic antimony; mineral butter)		28.30(3)	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
208 (20800-1) (Cont'd)			
Argols		R-7 208	Free Free Free
Arsenic disulphide, artificial (arsenic monosulphide; red arsenic; red arsenic glass; red arsenic sulphide; red orpiment; ruby arsenic)		28.15(1)	Free Free Free
Arsenic pentasulphide, artificial		28.15(1)	Free Free Free
Arsenic sulphides, natural		R-7 208	Free Free Free
Arsenic trisulphide, artificial (arsenic tersulphide; arsenious sulphide; arsenous sulphide)		28.15(1)	Free Free Free
Arsenic trioxide (arsenious acid; arsenious oxide; arsenous anhydride; arsenous oxide; white arsenic)		28.11(2)	10 15 25
Boric acid (boracic acid; orthoboric acid), other than crude natural boric acid, in packages weighing not less than 25 pounds		28.12(1)	Free Free Free
Boric acid, crude natural		R-7 208	Free Free Free
Bromine		28.01(1)	Free Free Free
Calcium cyanide (black cyanide)		28.43(2)	Free Free Free
Carbon disulphide (carbon bisulphide)		28.15(1)	Free Free Free
Catechol tannin		32.02(1)	Free Free Free
Chestnut wood tannin (castaneotannic acid)		32.02(1)	Free Free Free
Copper acetate, basic (verdigris)		29.14(24)	Free Free Free
Copper acetate, basic (copper subacetate; verdigris; verdigris, blue; verdigris, green)		38.11	Free Free Free
Copper, crude precipitate of		R-7 208	Free Free Free
Cyanogen bromide (bromine cyanide)		28.58(4)	Free Free Free
Fluorosilicic acid (fluosilicic acid; hydrofluorosilicic acid; hydrofluosilicic acid; silicofluoric acid)		28.13(4)	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208 (20800-1) (Cont'd)</u>			
Iodine, crude		28.01(1)	Free
Mimosa tannin		32.02(1)	Free
Oak bark tannin (quercitannic acid)		32.02(1)	Free
Potassium cyanide		28.43(3)	Free
Pyrogallol tannin		32.02(1)	Free
Quebracho tannin		32.02(1)	Free
Sodium borates, crude natural, and concentrates thereof, calcined or not		R-7 208	Free
Sodium cyanide (white cyanide)		28.43(4)	Free
Sodium tetraborate (borax; sodium borate; sodium pyroborate) in packages of not less than twenty-five pounds weight		28.46(2)	Free
Sulphur, other than sublimed sulphur, precipitated sulphur and colloidal sulphur		25.03	Free
Sulphur, sublimed (flowers of sulphur)		28.02	Free

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Imports under this item are estimated to have been nearly \$9 million in 1965, about 85 per cent from M.F.N. countries.

208a1 (20802-1)

Chloride of lime and hypochlorite of lime:

When in packages of not less than twenty-five pounds weight each:

per one hundred pounds Free 15¢ 15¢

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208a1 (20802-1) (Cont'd)</u>			
Calcium chloride		28.30(1)	Free 15 25
Calcium hypochlorite (calcium oxychloride, chloride of lime)		28.31(2)	Free 5 10
Calcium hypochlorite (calcium oxychloride, chloride of lime)		38.11	Free Free Free
Chloride of lime (bleaching powder; chlorinated lime)		38.11	Free Free Free
<u>Imports under this item are estimated to have been more than one million dollars in 1965, practically all from M.F.N. countries.</u>			
<u>208a2 (20803-1)</u>			
Chloride of lime and hypochlorite of lime:- When in packages of less than twenty-five pounds weight each:	17½ 25 25		
Calcium chloride		28.30(1)	Free 15 25
Calcium hypochlorite (calcium oxychloride, chloride of lime)		28.31(2)	Free 5 10
Calcium hypochlorite (calcium oxychloride, chloride of lime)		38.11	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208a2 (20803-1) (Cont'd)</u>			
Chloride of lime (bleaching powder; chlorinated lime)		38.11	Free Free Free
<u>Imports under this item are estimated to have been negligible in 1965 and about \$100,000 in 1964 all from M.F.N. countries.</u>			
<u>208b (20805-1)</u>			
Bisulphate of soda or nitre cake:	Free 20 20		
Sodium sulphate, acid (sodium hydrogen sulphate; nitre cake; sodium bisulphate)		28.38(17)	Free Free Free
<u>Imports under this item are reported to have been about \$163,000 in 1964 and about \$158,000 in 1965, all from M.F.N. countries.</u>			
<u>208c (20807-1)</u>			
Dehydrated sulphate of copper for agricultural or spraying purposes:	Free Free Free		
Copper sulphate, dehydrated		38.11	Free Free Free
<u>Imports under this item are believed to be negligible.</u>			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208d (20809-1)</u>			
Calcium chloride, not in solution, for road-treating purposes only	Free 15 15		
Calcium chloride		28.30(1)	Free 15 25
<u>Imports under this item are estimated to have been about one million dollars in 1964 and 1965, almost all from M.F.N. countries in 1965.</u>			
<u>208e (20811-1) (Unchanged)</u>			
Cresylic acid and compounds of cresylic acid, used in the process of concentrating ores, metals or minerals, n.o.p.:	Free 15 15		
<u>Although the wording of the item would be unchanged, any product now classified under the item that is mentioned elsewhere in the Recommended Schedule would cease to be in item 208e.</u>			
<u>Imports under this item are estimated to have been small in 1964 and 1965 and to have come equally from B.P. and M.F.N. countries.</u>			
<u>208f (20813-1)</u>			
Fused borax, commercially or generally known as borax glass:	Free Free Free		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
208f (20813-1) (Cont'd)			
Sodium tetraborate, fused (borax glass)		28.46(2)	Free Free Free
<u>Imports under this item are estimated to have been about one quarter of a million dollars in 1965, all from M.F.N. countries.</u>			
208g (20815-1)			
Calcium molybdate, molybdenum oxide, vanadium oxide and tungsten oxide, whether in powder, in lumps, or formed into briquettes by the use of a binding material, when for use in the manufacture of steel, under regulations prescribed by the Minister:	Free Free 5		
Calcium molybdate in powder, lumps or briquettes for manufacture of steel		R-8 208g	Free Free 5
Molybdenum oxides, natural		R-37(5)	10 15 25
Molybdenum trioxide (molybdic acid anhydride; molybdic oxide; molybdenum anhydride)		28.28(3)	10 15 25
Preparations for steel manufacture, other		38.19(1)	10 15 25
Tungsten oxide in powder, lumps, or briquettes for manufacture of steel		R-8 208g	Free Free 5

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208g (20815-1) (Cont'd)</u>			
Vanadium oxide in powder, lumps, or briquettes for manufacture of steel		R-8 208g	Free Free 5
<u>Imports under this item are reported to have been about \$707,000 in 1964 and about 1.1 million in 1965, about 75 per cent from M.F.N. countries in 1964 and 60 per cent from M.F.N. countries in 1965.</u>			
<u>208h (Cancelled)</u>			
Expired 31/1/64, D47-429			
<u>208i (20817-1)</u>			
Nitrate of ammonia, when imported for use in the manufacture of nitrous oxide:	Free 10 25		
Ammonium nitrate, whether or not coated or prilled		31.00(2)	Free Free Free
<u>There are no known imports under this item.</u>			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208j (20819-1)</u>			
Nitrate of ammonia, n.o.p. and sal ammoniac:	Free 25 25		
Ammonium chloride (sal ammoniac)		28.30(1)	Free 15 25
Ammonium nitrate, whether or not coated or prilled		31.00(2)	Free Free Free
<u>Imports</u> under this item are estimated to have been small in 1964 and 1965, practically all from M.F.N. countries.			
<u>208k (20821-1)</u>			
Oxide of cobalt:	Free 10 10		
Cobaltic oxide (cobalt III oxide; cobalt black)		28.24(2)	Free 10 20
Cobaltous oxide (cobalt monoxide)		28.24(2)	Free 10 20
Cobalt saline oxide (cobaltous oxide; cobalto-cobaltic oxide)		28.24(2)	Free 10 20
Crude oxide of cobalt		R-9 208k	Free 10 10

Imports under this item are estimated to have been small in 1965, virtually all from B.P. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208l (20823-1)</u>			
Bichloride of tin and tin crystals:	Free 10 10		
Stannic chloride (butter of tin; tin chloride; tin tetrachloride)		28.30(1)	Free 15 25
Stannous chloride (tin crystals; tin dichloride; tin protochloride; tin salt)		28.30(6)	Free 10 20
<u>Imports under this item are estimated to have been small in 1965, virtually all from M.F.N. countries.</u>			
<u>208m (20825-1)</u>			
Sulphate of copper (blue vitriol):	Free 10 10		
Cupric sulphate, not dehydrated (blue vitriol)		28.38(11)	Free 10 15
<u>Imports under this item are estimated to have been about a quarter of a million dollars in 1965, almost all from M.F.N. countries.</u>			
<u>208n (20827-1)</u>			
Sulphate of iron (copperas):	Free 10 10		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208n (20827-1) (Cont'd)</u>			
Ferrous sulphate (copperas; green copperas; green vitriol; iron vitriol; sal chalybis), other than exsiccated, U.S.P.		28.38(12)(ii)	Free 10 15
<u>Imports under this item are estimated to have been small in 1964 and 1965; all were from M.F.N. countries in 1965.</u>			
<u>208o (20829-1)</u>			
Cream of tartar in crystals and tartaric acid crystals:	Free 10 10		
Potassium bitartrate (cream of tartar; potassium acid tartrate)		29.16(23)	Free 10 25
Tartaric acid (dihydroxysuccinic acid)		29.16(29)	Free 10 25
<u>Imports under this item are estimated to have been about half a million dollars in 1965, more than half from M.F.N. countries.</u>			
<u>208p (20831-1)</u>			
Phosphorus and compounds thereof, n.o.p.:	Free 20 20		
Aluminum magnesium phosphide		28.55(1)	Free 15 25
Arsenic phosphide		28.55(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208p (20831-1) (Cont'd)</u>			
Barium phosphide		28.55(1)	Free 15 25
Boron phosphide		28.55(1)	Free 15 25
Cadmium phosphide		28.55(1)	Free 15 25
Calcium phosphide (photophor)		28.55(1)	Free 15 25
Copper phosphide (cupric phosphide; cupro-phosphorus; phospho copper), containing 8 per cent or more by weight of phosphorus		28.55(1)	Free 15 25
Hydrogen phosphide (phosphine; phosphoretted hydrogen; phosphuretted hydrogen)		28.55(1)	Free 15 25
Phosphonium iodide		28.58(1)	Free 15 25
Phosphorous di-iodide		28.14(1)	Free 15 25
Phosphorus		28.04(7)	Free 15 25
Phosphorus chlorosulphide		28.58(1)	Free 15 25
Phosphorus fluorides		28.14(1)	Free 15 25
Phosphorus nitride		28.57(1)	Free 15 25
Phosphorus pentabromide (phosphoric bromide; phosphoric perbromide)		28.14(1)	Free 15 25
Phosphorus pentachloride (phosphoric chloride; phosphoric perchloride)		28.14(3)	Free Free Free
Phosphorus pentasulphide (phosphoric sulphide; phosphorus persulphide; thiophosphoric anhydride)		28.15(2)	Free 5 20
Phosphorus pentoxide (phosphoric acid anhydrous; phosphoric anhydride; phosphoric oxide)		28.10	Free 15 25
Phosphorus tribromide (phosphorus bromide)		28.14(1)	Free 15 25
Phosphorus trichloride (phosphorus chloride)		28.14(4)	Free Free Free
Phosphorus tri-iodide (phosphorus iodide)		28.14(1)	Free 15 25
Phosphorus trisulphide (phosphorous sulphide; phosphorus sulphide; tetraphosphorus hexa-			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208p (20831-1) (Cont'd)</u>			
sulphide; thiophosphorus anhydride)		28.15(3)	Free 15 25
Silicon phosphide		28.55(1)	Free 15 25
Tetraphosphorus trisulphide (phosphorus sesquisulphide)		28.15(3)	Free 15 25
Tin phosphide		28.55(1)	Free 15 25
Zinc phosphide		28.55(1)	Free 15 25

Imports under this item are estimated to have been less than a quarter of a million dollars in 1964 and 1965, virtually all from M.F.N. countries in 1965.

208q (20833-1)

Oxalic acid:

Free 7½ 20 29.15(35) 10 15 25

Imports under this item are reported to have been about \$123,000 in 1964 and about \$169,000 in 1965, all from M.F.N. countries.

208r (20835-1)

Oxide of tin or of copper:

Free 15 15

Copper oxides, natural

R-37(3) Free 15 25

Cupric oxide (black copper oxide; copper monoxide)

28.28(1) Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208r (20835-1) (Cont'd)</u>			
Cuprous oxide (copper hemioxide; copper protioxide; copper suboxide; red copper oxide)		28.28(1)	Free 15 25
Stannic oxide (flowers of tin; stannic acid; stannic anhydride; tin anhydride; tin ash; tin dioxide; tin peroxide)		28.26	Free 15 25
Stannous oxide (tin oxide; tin protoxide)		28.26	Free 15 25
Tin oxides, natural		R-37(7)	Free 15 25

Imports under this item are estimated to have been much less than a quarter of a million dollars in 1965, mostly from B.P. countries.

208s (20837-1)

Sulphate of zinc and chloride of zinc:	Free 20 20		
Zinc chloride (butter of zinc)		28.30(1)	Free 15 25
Zinc sulphate (white copperas; white vitriol; zinc vitriol)		28.38(1)	Free 15 25

Imports under this item are estimated to have been less than half a million dollars in 1965, about equally divided between B.P. countries and M.F.N.

Existing Item
208t (20839-1)

All chemicals and drugs, n.o.p., of
a kind not produced in Canada

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
Free	15 p.c.	25 p.c.

Recommended Item

Except for (+) items,
recommended rates are:

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
Free	15 p.c.	25 p.c.

For (+) items, see rates
listed in Appendix I.

Acenaphthene (ethylene-naphthalene, naphthyleneethylene)	29.01(1)
Acenaphthenequinone (1,2-acenaphthenedione)	29.13(1)
Acepromazine maleate	29.35(1)
Acetaldehyde cyanohydrin (see lactonitrile)	29.29
Acetaldehyde phenylhydrazine	29.29
Acetaldoxime	29.25(1)
Acetamide (acetic acid amine; ethanamide)	29.25(1)
para Acetamidosalol	
Acetanisol (para-acetoanisol; para-acetylanisol; para-methoxyacetophenone)	29.13(1)
Acetanilide (antifebrin; N-phenylacetamide)	29.25(1)
Acetarsol	29.32
Acetoacetanilide (acetylacetanilide)	29.25(1)
Acetoacet-o-anisidide (o-aceto acetanisidine; aceto-acetic-o-anisidine)	29.25(1)
Acetoacet-o-chloranilide (acetoacetanilide-o- chloro; aceto-acetic-o-chloro-anilide)	29.25(1)
Acetoacet-o-toluidide	29.25(1)
Acetol (acetonyl alcohol; acetylcarbinol; hydroxyacetone; pyruvic alcohol)	29.13(1)
Acetomenaphthone	29.14(1)
Acetone cyanohydrin (alpha-hydroxy- isobutyronitrile; 2-methyl-lactonitrile)	29.27(1)
Acetone sodium bisulphite (sodium acetone bisulphite)	29.04(1)
Acetonyl acetone (1,2-diacetylene; 2,5- diketohexane; hexanedione-2,5)	29.13(1)
Acetophenoxime	29.29
Acetoxime (acetone oxime; 2-propanone oxime)	29.29
12a-Acetoxypregnan-3,20-dione	+29.14(4)
Acetparaphenetidide (see phenacetin)	
Acetylacetone (diacetylmethane; pentanedione-2,4)	29.13(1)
Acetyl bromide	29.14(1)
Acetylcarbromal (N-acetyl-N-bromodiethyl- acetylurea)	29.25(1)
Acetyl chloride	29.14(1)
Acetylcholine chloride (acecoline)	29.24(1)
N1-Acetyl-3,4-dimethyl-5-sulphanilamide isoxazole	29.36(1)
N-Acetyl glucosamine	29.25(1)
Acetylsulphadiazine	29.36(1)
Acetylsulphamerazine	29.36(1)
Acetylsulphamethyl thiodiazole	29.36(1)
Acetylsulphathiazole	29.36(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Acetyltannin	32.02(2)
Aconitine	29.42(1)
Acraldehyde (acrylaldehyde; acrylic aldehyde; acrolein; allyl aldehyde; propenal)	29.11(1)
Acridine (tricyclic)	29.35(1)
Acriflavine (euflavine; neutral acriflavine; trypaflavine neutral)	29.35(1)
Acrylamide	29.25(1)
Actinomycetin	29.44(1)
Actinomycin	29.44(1)
N-Acycloclaminoformylmethylpyridinium chloride	29.35(1)
Adenine riboside (adenosine; 9-beta-D- ribofuranosyladenine)	29.35(1)
Adrenal cortex extract	29.39(1)
L- and DL-Adrenaline (3,4-dihydroxyphenyl-2- methylaminoethanol; epinephrine; hemisine)	29.39(1)
Adrenaline acid tartrate	29.39(1)
Adrenaline hydrochloride	29.39(1)
Adrenaline salicylate	29.39(1)
Adrenochrome semicarbazone	+29.35(2)
Adrenosterone (androst-4-ene-3,11,17-trione)	29.39(1)
Aldol-alpha-naphthylamine	29.26(1)
Aldol-beta-naphthylamine	29.26(1)
DL-Aldosterone (11-beta-21-dihydroxy-3,20-dioxo- pregn-4-en-18-al)	29.39(1)
Aldrin (see HHDN)	
Alkali amides	28.58(1)
Alkaline-earths cyanates	28.44
Alkyl aryl hydrocarbons (alkyl benzenes; detergent alkylates), unsulphonated reaction blends	+38.19(2)
Alkyl aryl sulphonate, amine salts	+34.02
Alkyl benzene sodium sulphonate	+34.02
Alkyl benzene sulphonic acid salts	29.03(1)
	+34.02
Alkylbenzyltrialkylammonium chlorides	+29.24(2)
Alkylsulphates of substituted benziminazoles	+34.02
Alkylsulphonates	+34.02
Allantoin (glyoxyldiureid; 5 - ureidohydantoin)	29.25(1)
Allene (dimethylenemethane, propadiene)	29.01(1)
Allethrin	29.14(1)
Allyl alcohol (AA; 2-propen-1-ol; propenyl alcohol)	29.04(1)
Allyl benzoate	29.14(1)
Allyl bromide (bromoallylene, 3-bromopropane)	29.02(1)
6-Allyl-6,7-dihydro-5H-dibenz(c,e)azepine	29.35(1)
Allylene (methylacetylene, propyne)	29.01(1)
Allyl iodide	29.02(1)
Allyl-isopropyl-acetyl carbamide	29.25(1)
Allylisopropylamine	29.22(1)
Alumino silicates	28.48(1)
Aluminum acetate (waterproofing salts)	29.14(1)
Aluminum acetyl salicylate (aluminum aspirin)	29.16(1)

Existing ItemRecommended Item208t (20839-1) (Cont'd)

Aluminum ammonium sulphate (ammonia alum; ammonium alum), calcined	28.38(1)
Aluminum antimony fluorosulphate (Haen salt)	28.29(1)
Aluminum arsenates	28.41(1)
Aluminum boride	28.57(1)
Aluminum borocarbide	28.56(1)
Aluminum carbide	28.56(1)
Aluminum chlorhydrate	28.30(1)
Aluminum chlorite	28.31(1)
Aluminum citrate	29.16(1)
Aluminum diformate (aluminum formate, basic)	29.14(1)
Aluminum distearate	+29.14(6)
Aluminum fluoride	28.29(1)
Aluminum fluorosilicate (aluminum silicofluoride)	28.29(1)
Aluminum hydroxychloride (aluminum chlorhydroxide)	28.30(1)
Aluminum isopropoxide (aluminum isopropylate)	29.45(1)
Aluminum-lithium hydride	28.57(1)
Aluminum monostearate (aluminum monobasic stearate)	+29.14(7)
Aluminum naphthenate	38.19(10)
Aluminum nitride	28.57(1)
Aluminum orthophosphate, artificial	28.40(1)
Aluminum palmitate	29.14(1)
Aluminum perborate	28.46(1)
Aluminum phosphate	28.40(1)
Aluminum potassium sodium fluoride	28.29(1)
Aluminum potassium sulphate (potash alum; potassium alum), calcined	28.38(1)
Aluminum silicate	28.45(1)
Aluminum sodium chloride (sodium aluminum chloride)	28.48(1)
Aluminum sodium sulphate (porous alum; soda alum; SAS; sodium aluminum sulphate), calcined	28.38(1)
Aluminum stannate	28.47(1)
Aluminum tannate	32.02(2)
Aluminum thiosulphate	28.37(1)
Aluminum triformate (aluminum formate, normal)	29.14(1)
Amidopyrin (see aminopyrine)	
Aminoanthraquinones	29.23(1)
p-Aminoazobenzene (aniline yellow; phenylazoaniline)	29.28
Aminoazonaphthalene	29.28
Aminobenzaldehydes	29.23(1)
para-Aminobenzenesulphonacetamide (see sulpha- cetamide)	
para-Aminobenzenesulphonamide (see sulphanilamide)	
para-Aminobenzenesulphonamido-4-methylpyrimidine (see sulphamerazine)	
para-Aminobenzenesulphonamidopyridine (see sulphapyridine)	
para-Aminobenzenesulphonamidothiazole (see sulphathiazole)	

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
para-Aminobenzenesulphonylthiourea (see sulphathiourea)	
Aminocresols	29.23(1)
Aminocrine hydrochloride	29.35(1)
3-Aminocyclohexanol	29.23(1)
Aminoethyl-3-trimethoxysilylpropylimine	29.34(1)
2-Aminoheptane (1-methylhexylamine; triaminoheptane)	29.22(1)
Amino-mercuric chloride (ammoniated mercury; ammoniated mercury chloride; ammonobasic mercury chloride; fusible aminomercuric chloride; Lemery's white precipitate; mercury cosmetic, white precipitate; white precipitate fusible)	28.58(1)
Aminophenol (hydroxyaniline)	29.23(1)
Aminophenylacetonitrile	29.27(1)
Aminophyllin (theophylline ethylenediamine)	29.42(1)
3-Aminopropyltriethoxysilane	29.34(1)
Aminopyrine (amidopyrin; dimethylaminoantipyrine; dimethylaminoanalgine; dimethyl dimethyl- aminophenylpyrazolone)	29.35(1)
2-Aminothiazole (2-thiazylamine)	29.35(1)
2-Aminothiazoline	29.35(1)
Aminotrichlorosilane	29.34(1)
Aminotriethoxysilane	29.34(1)
Ammonium benzoate	29.14(1)
Ammonium bicarbonate	28.42(1)
Ammonium bifluoride (ammonium acid fluoride)	28.29(1)
Ammonium borate (ammonium biborate)	28.46(1)
Ammonium bromide	28.33
Ammonium carbonate, commercial	28.42(1)
Ammonium ceric nitrate	28.52(1)
Ammonium chlorate	28.32(1)
Ammonium chlorostannate	28.48(1)
Ammonium chromate	28.47(1)
Ammonium cobalt sulphate (cobaltous ammonium sulphate)	28.48(1)
Ammonium copper chloride	28.48(1)
Ammonium copper sulphate	28.48(1)
Ammonium copper thiosulphate	28.48(1)
Ammonium cyanate	28.44
Ammonium dichromate (ammonium bichromate)	28.47(1)
Ammonium diethyl dithiocarbamate	29.31(1)
Ammonium ferric chloride	28.48(1)
Ammonium ferric citrate (ferric ammonium citrate; iron ammonium citrate)	29.16(1)
Ammonium ferric sulphate	28.38(1)
Ammonium ferrocyanide	28.43(1)
Ammonium ferrous chloride	28.48(1)
Ammonium ferrous sulphate	28.48(1)
Ammonium fluoride	28.29(1)
Ammonium fluoroborate (ammonium borofluoride)	28.29(1)
Ammonium gluconate	29.16(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Ammonium hydrogen carbonate	28.42(1)
Ammonium hydrogen sulphide	28.35(1)
Ammonium hypochlorite	28.31(1)
Ammonium hypophosphite	28.40(1)
Ammonium iodide	28.34(1)
Ammonium-iron oxalate (ammonioferric oxalate; ferric ammonium oxalate)	29.15(1)
Ammonium magnesium chloride	28.48(1)
Ammonium magnesium phosphate (magnesium ammonium phosphate)	28.48(1)
Ammonium mercury chloride (ammonium chloro- mercurate; ammonium mercuric chloride)	28.48(1)
Ammonium mercury sulphate	28.48(1)
Ammonium metaborate	28.46(1)
Ammonium metavanadate (ammonium vanadate)	28.47(1)
Ammonium molybdate	28.47(1)
Ammonium nickel chloride (nickel ammonium chloride)	28.48(1)
Ammonium nickel sulphate (nickel ammonium sulphate), other than technical or commercial grade	28.48(1)
Ammonium nitrite	28.39(1)
Ammonium oleate	29.14(1)
Ammonium oxalate	29.15(1)
Ammonium pentaborate (ammonium decaborate)	28.46(1)
Ammonium perborate	28.46(1)
Ammonium perchlorate	28.32(1)
Ammonium perfluorocaprylate	29.14(1)
Ammonium persulphate	28.38(1)
	+37.08
Ammonium phosphate, dibasic (ammonium phosphate, secondary; diammonium hydrogen phosphate; diammonium orthophosphate; diammonium phosphate), containing, in the dry state, less than 6 mg. of arsenic per kg., pharmacopoeial grade	28.40(1)
Ammonium phosphate, monobasic (ammonium acid phosphate; ammonium biphosphate; ammonium dihydrogen orthophosphate; ammonium phosphate, primary; monoammonium orthophosphate; mono- ammonium phosphate), containing, in the dry state, less than 6 mg. of arsenic per kg., pharmacopoeial grade	28.40(1)
Ammonium phosphate, tribasic (triammonium orthophosphate), containing, in the dry state, less than 6 mg. of arsenic per kg.	28.40(1)
Ammonium phosphates containing, in the dry state, not less than 6 mg. of arsenic per kg.	+31.00(2)
Ammonium reineckate (ammonium tetrathio- cyanatodiamminochromate; reinecke salt)	28.48(1)
Ammonium selenate	28.48(1)
Ammonium stannic chloride	28.48(1)
Ammonium stearate	29.14(1)
Ammonium sulphamate	28.48(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Ammonium sulphite	28.37(1)
Ammonium sulphonitrate	+31.00(2)
Ammonium thiocyanate (ammonium rhodanide; ammonium sulphocyanate; ammonium sulphocyanide)	28.44
Ammonium thioglycollate	29.31(1)
Ammonium thiosulphate (ammonium hyposulphite)	28.37(1)
Ammonium tungstate (ammonium paratungstate; ammonium wolframate)	28.47(1)
Amphetamine (1-phenyl-2-aminopropane; methylphenethylamine)	29.22(1)
Amphetamine phosphate dibasic (1-phenyl-2- aminopropane phosphate)	29.22(1)
Amphetamine sulphate (1-phenyl-2-aminopropane sulphate)	29.22(1)
Amphotericin	29.44(1)
Amygdalin (amygdaloside; mandelonitrile beta-gentiobioside)	29.41(1)
Amyl cinnamate	29.14(1)
Amylenes	29.01(1)
Amyl ethyl ethers	29.08(1)
Amyl mercaptan (amyl hydrosulphide, amyl sulphydrate; pentanethiol)	29.31(1)
Amyl nitrate	29.18(1)
Amyl nitrite (isoamyl nitrite)	29.18(1)
para-tertiary-Amyl phenol	29.06(1)
Amyl tartrates	29.16(1)
Amyl thioglycollate	29.31(1)
Amyltrichlorosilane	29.34(1)
Amyltriethoxysilane	29.34(1)
Amyl xanthate	29.31(1)
5-alpha-Androstan-3-one	29.13(1)
Androsterone	29.39(1)
Aneurine (see Vitamin B ₁)	
Aneurine hydrochloride (see thiamine hydrochloride)	
Aneurine mononitrate (see thiamine mononitrate)	
Anhydrohydroxy-progesterone (see ethisterone)	
Anisidine (aminoanisole; methoxyaniline)	29.23(1)
Anisole (methoxybenzene; methylphenyl ether)	29.08(1)
Anthracene (anthracin, green oil)	29.01(1)
Anthraquinone	29.13(1)
Anthrimides	29.23(1)
Antimony boride	28.57(1)
Antimony chloride, basic (antimony oxychloride)	+28.30(3)
Antimony fluoride (antimony trifluoride)	28.29(1)
Antimony hydride	28.57(1)
Antimony iodide (antimony tri-iodide)	28.34(1)
Antimony, n.o.p.	R-36(1)
Antimony oxyiodide	28.34(1)
Antimony pentafluoride	28.29(1)
Antimony pentasulphide (antimony persulphide; antimony red; antimony sulphide, golden)	28.35(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Antimony trisulphide, artificial (antimony needles; antimony orange; antimony sulphide; black antimony; sulphuret of antimony)	28.35(1)
Antipyrine (phenazone; phenyldimethyl-isopyrazolone)	29.35(1)
Apomorphine	29.42(1)
Apomorphine hydrochloride	29.42(1)
Arabinose (gum sugar; pectinose; pectin sugar)	29.43(1)
Arbutin (arbutoside; hydroquinone glucose; ursin)	29.41(1)
Arecoline (arecaidine methyl ester; methyl arecaidinate; methyl-1,2,5,6-tetrahydro-1-methylnicotinate)	29.42(1)
1-Arginine-1-glutamate	29.26(1)
Argon, liquefied	+28.04(1)
Arsenic	28.04(2)
Arsenic hydride (arseniuretted hydrogen; arsine)	28.57(1)
Arsenic oxysulphide	28.58(1)
Arsenic pentoxide (arsenic acid; arsenic anhydride; arsenic oxide)	28.11(1)
Arsenic trichloride (arsenic chloride; arsenious chloride; arsenous chloride; butter of arsenic; caustic arsenic chloride; fuming liquid arsenic)	28.14(1)
Arsenic tri-iodide (arsenic iodide; arsenious iodide; arsenous iodide)	28.14(1)
Arsenosulphides	28.48(1)
Arsphenamine (3,3'-diamino-4,4'-dihydroxy-arsenobenzene dihydrochloride; arsenobenzene; 606; Ehrlich 606)	29.32
1-Artenerol (see L-Noradrenaline)	
Asparagine (althein; alpha-aminosuccinamic acid; beta-asparagine; aspartamic acid; aspartamide)	29.25(1)
Atropine (daturine)	29.42(1)
Atropine sulphate	29.42(1)
Auric oxide (auric anhydride; auric trioxide; gold trioxide)	28.49(1)
Aurous chloride	28.49(1)
Aurous oxide	28.49(1)
Azides of carboxylic acids	29.30(1)
Azobenzene (diphenyldiimide; benzeneazobenzene)	29.28
Azoisobutyronitrile	29.28
Azonaphthalene	29.28
Azotoluene	29.28
p-Azoxyanisole	29.28
Azoxybenzene	29.28
p-Azoxyphenetole	29.28
Azoxytoluene	29.28
Azoxytoluidine (diaminoazoxytoluene)	29.28
Bacitracin and its salts	29.44(1)
Barbitone sodium (barbital sodium; barbital, soluble)	29.25(1)
Barium	28.05(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Barium aluminate	28.47(1)
Barium bromide	28.33
Barium-cadmium complex for manufacture of steel	+R-8 208g
Barium carbide	28.56(1)
Barium carbonate, precipitated	28.42(1)
Barium chlorate	28.32(1)
Barium chloride	28.30(1)
Barium chromate (baryta yellow; lemon chrome; Steinbuhl yellow; yellow ultramarine)	28.47(1)
Barium cyanoplatinite (barium platinocyanide; platinous barium cyanide)	28.49(1)
Barium fluoride	28.29(1)
Barium fluorosilicate (barium fluosilicate; barium silicofluoride)	28.29(1)
Barium hydroxides	28.18(1)
Barium hypochlorite	28.31(1)
Barium iodate	28.34(1)
Barium naphthenate	38.19(10)
Barium nitrate	28.39(1)
Barium nitrite	28.39(1)
Barium oxide (barium monoxide; barium protoxide; calcined baryta)	28.18(1)
Barium perchlorate	28.32(1)
Barium phenate	29.06(1)
Barium plumbate	28.47(1)
Barium silicates	28.45(1)
Barium silicon complex for manufacture of steel	+R-8 208g
Barium sulphide (barium monosulphide; black ash)	28.35(1)
Barium thiosulphate (barium hyposulphite)	28.37(1)
Barium titanate	28.47(1)
Barium tungstate (barium white; barium wolframate; tungstate white; wolfram white)	28.47(1)
Barium zincate	28.47(1)
Bemigride (3-ethyl-3-methylglutarimide; methe- tharimide; 3,3-methylethylglutarimide)	29.26(1)
Bendrofluazide	29.36(1)
Benzaldehyde semicarbazone	29.29
Benzaldehyde sodium bisulphite	29.05(1)
Benzaldoxime	29.29
Benzanthrome	29.13(1)
Benzene (benzol)	+29.01(3)
gamma-Benzene hexachloride (lindane)	29.02(1)
Benzidene chloride	29.02(1)
Benzidine (benzidine base; para-diamino- diphenyl)	29.22(1)
Benziminazole	29.35(1)
Benzocaine (ethyl p-aminobenzoate)	29.23(1)
Benzofuran (see coumarone)	
Benzonitrile (phenyl cyanide)	29.27(1)
Benzophenone (diphenylketone)	29.13(1)
Benzopyran	29.35(1)
para-Benzoquinone (quinone)	29.13(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Benzothiazole	29.35(1)
Benzotrichloride (benzenyl trichloride, benzoic trichloride, phenyl chloroform, toluene trichloride)	29.02(1)
Benzoxazole	29.35(1)
Benzoyl chloride	29.14(1)
Benzyl alcohol (alpha-hydroxytoluene; phenylcarbinol; phenylmethanol)	29.05(1)
Benzylamine (aminotoluene)	29.22(1)
Benzyl benzoate	29.14(1)
Benzyl butyl phthalate (BBP; butyl benzyl phthalate)	29.15(1)
Benzyl butyrate	29.14(1)
Benzylchloride (alpha chlorotoluene)	29.02(1)
Benzyl cinnamate (cinnamoin)	29.14(1)
Benzyl diethyl(2,6-xylyl-carbamoylmethyl) ammonium benzoate ("Bitrex")	29.24(1)
N-Benzyl dimethylamine	29.22(1)
Benzyl ethyl ether	29.08(1)
Benzylideneacetone (acetocinnamone; benzal- acetone; methylcinnamyl ketone; methyl- styryl ketone)	29.13(1)
Benzylideneacetoxime	29.29
Benzylidene chloride (benzalchloride, benzyl- dichloride, chlorobenzal)	29.02(1)
N-Benzylmethylamine	29.22(1)
1-Benzyl-2-(5-methyl-3-isoaxolyl carbonyl hydrazine)	29.35(1)
Benzylphenylhydrazine	29.29
Benzyl sodium succinate	29.15(1)
Benzyltrialkylammonium chlorides	+29.24(3)
1-Benzyl-2-trimethyl acetyl hydrazine	29.29
Benzyl xanthate	29.31(1)
Berberine hydrochloride	29.42(1)
Beryllium	R-36(1)
Beryllium hydroxide (beryllium hydrate)	28.28(1)
Beryllium oxide	28.28(1)
Beryllium oxyfluoride	28.29(1)
Betaine (lycine; oxyneurine; trimethyl- glycine)	29.24(1)
Betaine hydrochloride (lycine hydrochloride)	29.24(1)
Betamethosone (9-alpha-fluoro-16-beta- methylprednisolone)	29.39(1)
Biotin (see Vitamin H)	29.38(1)
Biotin methyl ester	28.47(1)
Bismuthates	28.30(1)
Bismuth chloride (bismuth trichloride)	
Bismuth hydroxide (bismuth hydrate; bismuth oxyhydrate; bismuth trihydrate; bismuth trihydroxide; hydrated bismuth oxide)	28.28(1)
Bismuth iodide	28.34(1)
Bismuth lactate	29.16(1)
Bismuth nitrate (bismuth ternitrate; bismuth trinitrate), neutral	28.39(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Bismuth pentoxide	28.28(1)
Bismuth sodium iodide	28.48(1)
Bismuth tannate	32.02(2)
Bismuth telluride (bismuth tritelluride)	28.48(1)
Bismuth-3,4,5-trihydroxy-2-iodobenzoate	29.16(1)
Bismuth trioxide (bismuth oxide; bismuth yellow)	28.28(1)
Boric oxide (boric anhydride; boron oxide)	28.12(2)
Borneol (Borneo camphor; bornyl alcohol; Malayan camphor)	29.05(1)
iso-Borneol	29.05(1)
Bornyl chloride (pinene hydrochloride, terpene hydrochloride, turpentine camphor)	29.02(1)
Bornyl salicylate	29.16(1)
Boron	28.04(3)
Boron carbide	28.56(1)
Boron hydrides (decaborane; diborane and pentaborane)	28.57(1)
Boron nitride	28.57(1)
Boron trifluoride	28.14(1)
Bromocamphor (brominated camphor; camphor bromate; monobromated camphor)	29.13(1)
Bromodiethylacetylurea (carbromal)	29.25(1)
Bromoethane (ethyl bromide)	29.02(1)
Bromoform (methenyl tribromide, tribromo-methane)	29.02(1)
Bromoisovalerylurea (bromisovalum)	29.25(1)
Bromomethane (methyl bromide)	29.02(1)
Bromonitromethane	29.03(1)
Bromophenylhydrazine	29.29
N-Bromosuccinimide	29.26(1)
Brucine sulphate	29.42(1)
Butabarbital sodium (butabarbitalone sodium; sodium-5-sec-butyl-5-ethylbarbiturate; sodium-5-ethyl-5-(1-methylpropyl) barbiturate)	29.25(1)
Butacaine	29.23(1)
Butacaine sulphate (3-di-n-butylaminopropyl-para-aminobenzoate sulphate)	29.23(1)
"Butesin picrate" (see di(butyl-p-aminobenzoate) trinitrophenol)	
Butobarbitalone sodium (see butabarbital sodium)	
Butopyronoxyl (butyl mesityl oxide)	29.35(1)
1-n-Butoxypropan-2-ol	29.08(1)
2-Butoxy-2'-thiocyanodiethylether	29.31(1)
sec-Butyl acetate (2-butanol acetate)	29.14(1)
tert-Butyl acetate	29.14(1)
Butyl acrylate	29.14(1)
n-Butyl-p-aminobenzoate	29.23(1)
Butyl benzoate	29.14(1)
N-tert-Butyl-2-benzothiazolesulphenamide	29.35(1)
Butylchlorophenylmethyl methyl phosphoramidate	29.22(1)
Butyl cyclohexyl phthalate	29.15(1)
Butyl decyl phthalate	29.15(1)
Butyldimethylacetophenone	29.13(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
tert-Butyldimethyldinitroacetophenone (3,5-dinitro-2,6-dimethyl-4-tert- butylacetophenone; ketone musk)	29.13(1)
tertiary-Butyldinitrometacresol methyl ether (see musk ambrette)	
3-tertiary-Butyl-2:6-dinitro-para-cymene (cymene musk)	29.03(1)
bis-Butylene tetrahydrofurfural	29.35(1)
Butyl ethyl ethers	29.08(1)
Butyl glycidyl ether	29.09(1)
n-Butyl-p-hydroxybenzoate	29.16(1)
Butylideneaniline	29.26(1)
Butylisodecyl phthalate	+29.15(4)
Butyliso-octyl phthalate	+29.15(5)
Butyl lactate	29.16(1)
n-Butyl mercaptan (butenethiol)	29.31(1)
Butyl methacrylate	29.14(1)
Butyl nitrate	29.18(1)
Butyl nitrite	29.18(1)
para-tertiary-Butyl phenol	29.06(1)
2-(p-tert-Butyl phenoxy)isopropyl-1,2- chloroethyl sulphite	29.21
Butyl salicylate	29.16(1)
Butyl tartrates	29.16(1)
n-Butyl thioglycollate	29.31(1)
Butyl xanthate	29.31(1)
Butyn base	29.23(1)
Butyne-1 (ethylacetylene)	29.01(1)
Butyraldoxime (butaldoxime)	29.29
Butyric anhydride	29.14(1)
Butyrolactone (hydroxybutyric acid lactone)	29.35(1)
Cadmium borate	28.46(1)
Cadmium borotungstate	28.48(1)
Cadmium bromide	28.33
Cadmium diamyl dithiocarbamate	29.31(1)
Cadmium fluoroborate	28.29(1)
Cadmium hydroxide (cadmium hydrate)	28.28(1)
Cadmium nitrate	28.39(1)
Cadmium oxide (anhydrous cadmium oxide)	28.28(1)
Cadmium pentamethylene dithiocarbamate	29.35(1)
Cadmium potassium iodide	28.48(1)
Cadmium selenide	28.48(1)
Cadmium sulphate	28.38(1)
Cadmium sulphide (aurora yellow; orange cadmium; orient yellow)	28.35(1)
Caesium	28.05(1)
Caesium silicate	28.45(1)
Caffeine (methyltheobromine; theine; trimethylxanthine)	29.42(1)
Caffeine citrate	29.42(1)
Calciferol (see Vitamin D ₂)	
Calcium	28.05(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Calcium acetate (brown acetate; gray acetate; lime acetate; vinegar salts)	29.14(1)
Calcium aluminate (tricalcium aluminate)	28.47(1)
Calcium arsenates	28.41(1)
Calcium arsenite	28.41(1)
Calcium benzoate	29.14(1)
Calcium borate, precipitated	28.46(1)
Calcium boride	28.57(1)
Calcium bromide	28.33
Calcium carbonate, precipitated, pharmaceutical grade	28.42(1)
Calcium chromate (golbin; Steinbuhl yellow; yellow ultramarine)	28.47(1)
Calcium citrate (lime citrate)	29.16(1)
Calcium dihydrogen disulphite	28.37(1)
Calcium dithionite	28.36(1)
Calcium fluoride	28.29(1)
Calcium fluoroborate	28.29(1)
Calcium fluosilicate (calcium fluosilicate; calcium silicofluoride)	28.29(1)
Calcium formate	29.14(1)
Calcium gluconate	29.16(1)
Calcium gluconate galactogluconate	29.16(1)
Calcium glycerophosphate (calcium glycerinophosphate)	29.19(1)
Calcium hydride (hydrolith)	28.57(1)
Calcium hydroxide (calcium hydrate)	28.28(1)
Calcium hypophosphate	28.40(1)
Calcium hypophosphite (lime hypophosphite)	28.40(1)
Calcium iodide	28.34(1)
Calcium lactate	29.16(1)
Calcium lactobionate	29.16(1)
Calcium magnesium chloride	28.48(1)
Calcium-magnesium complex for manufacture of steel	+R-8 208g
Calcium mandelate	29.16(1)
Calcium molybdate	28.47(1)
Calcium naphthenate	38.19(10)
Calcium nembutal	29.25(1)
Calcium nicotinate	29.38(1)
Calcium nitrate (lime nitrate; lime saltpetre; nitrocalcite; Norge niter; Norwegian salt-petre), containing, in the dry state, more than 16 per cent by weight of nitrogen	28.39(1)
Calcium nitrate containing, in the dry state, not more than 16 per cent by weight of nitrogen	+31.00(2)
Calcium oxalate	29.15(1)
Calcium oxide	28.28(1)
Calcium palmitate	29.14(1)
Calcium perborate	28.46(1)
Calcium permanganate	28.47(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Calcium peroxide (calcium dioxide; calcium superoxide)	28.28(1)
Calcium phenate	29.06(1)
Calcium phosphate, monobasic (acid phosphate of lime; calcium biphosphate; calcium tetrahydrogen diorthophosphate; monocalcium phosphate), containing, in the dry state, less than 0.2 per cent by weight of fluorine, medicinal	28.40(1)
Calcium phosphate, tribasic (calcium orthophosphate; calcium phosphate, precipitated; calcium phosphate tertiary; tricalcic phosphate; tricalcium orthophosphate; tricalcium phosphate)	28.40(1)
Calcium plumbate	28.47(1)
Calcium polysulphide	28.35(1)
Calcium potassium chromate	28.48(1)
Calcium potassium thiosulphate	28.48(1)
Calcium pyrophosphate, dibasic (dicalcium pyrophosphate)	28.40(1)
Calcium salicylate	29.16(1)
Calcium silicates, other than natural	+28.45(2)
Calcium silicide	28.57(1)
Calcium-silicon complex for manufacture of steel	+R-8 208g
Calcium succinate	29.15(1)
Calcium sulphate (satin white), A.R. grade or precipitated	+28.38(7)
Calcium sulphide (hepar calcis)	28.35(1)
Calcium sulphite, neutral	28.37(1)
Calcium tannate	32.02(2)
Calcium tartrate	29.16(1)
Calcium thiocyanate (calcium rhodanate; calcium sulphocyanate)	28.44
Calcium thioglycollate	29.31(1)
Calcium thiosulphate (calcium hyposulphite)	28.37(1)
Calcium tungstate (calcium orthotungstate; calcium wolframate; calcium wolframate normal)	28.47(1)
Camphene	+29.01(7)
Caprilic aldehyde (aldehyde C-8; octanol; n-octyl aldehyde)	29.11(1)
Caprolactam (epsilon hexolactam)	+29.35(4)
Capryl thioglycollate	29.31(1)
Captan (N-trichloromethylmercapto-4-cyclohexene-1,2-dicarboximide; N-trichloromethylthiotetrahydrophthalimide)	29.31(1)
Carbachol (carbamylocholine chloride; choline chloride carbamate)	29.25(1)
Carbazole (dibenzopyrrole; diphenylenimine)	29.35(1)
Carbetapentane (2-(diethylaminoethoxy)ethyl-1-phenylcyclopentyl-1-carboxylate)	29.23(1)
Carbinoxamine maleate (2-(p-chloro-a(2-dimethylaminoethoxy)benzyl)pyridine maleate)	29.35(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
Carbon chlorosulphide	28.58(1)
Carbon monoxide	28.13(1)
Carbon 13, natural	+28.51
Carbon oxychloride (carbonyl chloride; chloroformyl chloride; phosgene)	28.14(1)
Carbon oxysulphide	28.58(1)
Carbon tetrachloride (perchloromethane; tetrachloromethane) A.R. grade	+29.02(2)
Catalyst reaction mixtures	+38.19(1)
Catechol (1,2-benzenediol; ortho-dihydroxy- benzene; pyrocatechol)	29.06(1) +37.08
Cellulose esters or ethers, water soluble	+39.03(a)1
Ceric hydroxide (ceric oxide hydrated; cerium hydrate)	28.52(1)
Ceric oxide (cerium dioxide; cerium oxide)	28.52(1)
Ceric sulphate (cerium sulphate)	28.52(1)
Cerium	28.05(1)
Cerous chloride (cerium chloride)	28.52(1)
Cerous hydroxide (cerium hydrate)	28.52(1)
Cerous nitrate (cerium nitrate)	28.52(1)
Cerous oxalate (cerium oxalate)	28.52(1)
Cerous oxide	28.52(1)
Cerous sulphate (cerium sulphate)	28.52(1)
Ceryl alcohol (ceratin)	29.04(1)
Cetyl alcohol (alcohol C-16; cetylic alcohol; 1-hexadecanol; normal primary hexadecyl alcohol; palmityl alcohol)	+15.10(3) 29.04(1)
Cetyl hydrogen sulphate, the ammonium, lithium, potassium and sodium salts of	+29.17(2)
Cetyl palmitate (cetin; cetyl ester; palmitic acid)	29.14(1)
Cetyltrimethylammonium bromide (hexadecyl- trimethylammonium bromide)	29.24(1)
Cevadine (see veratrine)	
Charges for fire-extinguishers	+38.17
Chloral (trichloroacetaldehyde)	29.12
Chloral hydrate ("knockout drops"; trichloro- acetic aldehyde hydrated; 2,2,2-trichloro- ethane-1,1,1-diol)	29.04(1)
Chloramine T (sodium para-toluene sulphon- chloramine)	29.36(1)
Chloramphenicol derivatives of a kind not made in Canada	+29.44(2)
Chloranil (tetrachloro-para-benzoquinone; tetrachloroquinone)	29.13(1)
Chlorbis(ethylamino)triazine	29.35(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
4-Chlorbutan-1-ol	29.04(1)
Chlorbutol	29.04(1)
Chlorbutynyl chlorocarbaniolate	29.25(1)
Chlorcyclizine hydrochloride (1-(para-chloro- alpha-phenylbenzyl)-4-methylpiperazine dihydrochloride)	29.35(1)
Chlordane (chlordan; 1,2,4,5,6,7,8,8-octachloro-4, 7-methano-3a, 4,7,7a-tetrahydroindane)	29.02(1)
Chlordiazepoxide hydrochloride (7-chloro-2- methylamino-5-phenyl-3H-1,4-benzodiazepine- 4-oxide hydrochloride)	29.35(1)
Chlorfenson (4-chlorophenyl 4-chlorobenzene- sulphonate)	29.07(1)
Chlorhexidine	29.26(1)
Chlorhexidine diacetate	29.26(1)
Chlorhexidine digluconate	29.26(1)
Chlorhexidine dihydrochloride	29.26(1)
Chloroallyldiethyldithiocarbamate	29.31(1)
Chlorobenzene (chlorobenzol, phenyl chloride)	29.02(1)
2-p-Chlorobenzylpyridine (2-(4-chlorobenzyl) pyridine)	29.35(1)
Chlorobromides	28.48(1)
Chlorocamphene	29.02(1)
Chlorochromates	28.48(1)
4-Chloro-o-cresol	29.07(1)
Chlorodiallyl acetamide	29.25(1)
6-Chloro-3,4-dihydro-7-sulphamylbenzo- 1,2,4-thiadiazine-1,1-dioxide	29.36(1)
2-Chloro-9-(3-dimethyl-amino propylidene) thioxanthene	29.35(1)
2-Chloro-4-ethylamino-6-isopropylamino-s- triazine	29.35(1)
7-Chloro-4-hydroxyquinoline	29.35(1)
Chloriodates	28.48(1)
Chloriodides	28.48(1)
Chloroiridates	28.49(1)
Chloroiridites	28.49(1)
7-Chloro-2-methylamino-5-phenyl-3H-1,4- benzodiazepine-4-oxide hydrochloride (see chlordiazepoxide hydrochloride)	
4-Chloro-3-methylphenol (4-chloro-meta-cresol; para-chloro-meta-cresol; 4-chloro-1-hydroxy- 3-methyl-benzene; 6-chloro-3-hydroxy-toluene)	29.07(1)
Chloromethylphenyl methyl-pentanamide	29.25(1)
alpha-Chloronaphthalene	29.02(1)
beta-Chloronaphthalene	29.02(1)
Chloronitrobenzene	29.03(1)
Chloronitromethane	29.03(1)
Chloronitrotoluene	29.03(1)
Chloro-osmates	28.49(1)
Chloro-osmites	28.49(1)
Chloropalladates	28.49(1)
Chlorophenols	29.07(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)</u> (Cont'd)	
Chlorophenyldimethylurea trichloroacetate	29.25(1)
bis-(p-Chlorophenyl)trichloroethanol	29.05(1)
Chloroquinol (chlorohydroquinone; 2-chloro-1,4-dihydroxybenzene; 2,5-dihydroxychlorobenzene)	29.07(1)
Chlororhodites	28.49(1)
Chlorotetracycline (aureomycin)	+29.44(4)
Chlorothiazide (6-chloro-7-sulphamyl-1,2,4-benzothiadiazine-1,1-dioxide)	29.36(1)
6-Chlorothymol	29.07(1)
Chlorovanadates	28.48(1)
4-Chloro-3,5-xyleneol	29.07(1)
Chlorpheniramine maleate (1-para-chlorophenyl)-1-(2-pyridyl)-3-dimethylaminopropane maleate; chlorprophenpyridamine maleate)	29.35(1)
Chlorprothixene	29.35(1)
Cholesterol	29.05(1)
Choline (hydroxyethylmethyllummonium hydroxide)	29.24(1)
Choline bitartrate (choline hydrogen tartrate)	29.24(1)
Choline chloride	29.24(1)
Choline dihydrogen citrate	29.24(1)
Choline hydrogen tartrate (see choline bitartrate)	
Chorionic gonadotrophin (HCG; gonadostimulin)	29.39(1)
Chromic chloride (chromium chloride; chromium sesquichloride)	28.30(1)
Chromic oxide (chromium oxide; chromium sesquioxide; green cinnabar)	+28.21(2)
Chromium acetate (chromic acetate)	29.14(1)
Chromium aluminate	28.47(1)
Chromium carbide	28.56(1)
Chromium chlorate	28.32(1)
Chromium fluoride (chromic fluoride)	28.29(1)
Chromium fluoroborate	28.29(1)
Chromium fluorosilicate	28.29(1)
Chromium hydrogen sulphite	28.37(1)
Chromium hydroxides	28.21(1)
Chromium naphthenate	38.19(10)
Chromium oxychloride (chlorochromic anhydride; chromyl chloride)	28.30(1)
Chromium phosphate (chromic phosphate), other than as a dry colour	28.40(1)
Chromium silicides	28.57(1)
Chromium stannate	28.47(1)
Chromium sulphate, other than basic	28.38(1)
Chromous chloride	28.30(1)
Chrysazin (danthron; 1,8-dihydroxyanthraquinone)	29.13(1)
Cinchonidine	29.42(1)
Cinchonidine sulphate	29.42(1)
Cinchonine	29.42(1)
Cinnamyl alcohol (see 3-phenylpropanol)	
Cobalt acetate (cobaltous acetate)	29.14(1)
Cobalt arsenates	28.41(1)
Cobalt borate	28.46(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
Cobalt chloride (cobaltous chloride)	28.30(1)
Cobalt hydroxides	28.24(1)
Cobalt nitrate (cobaltous nitrate), A.R. grades	28.39(1)
Cobalt phosphate (cobalt orthophosphate; cobaltous phosphate)	28.40(1)
Cobalt sulphate pharmaceutical and A.R. grades	28.38(1)
Cobalt sulphate (cobaltous sulphate), other than pharmaceutical and A.R. grades	+28.38(10)
Cobalt zincate	28.47(1)
Cobaltic fluoride (cobalt trifluoride)	28.29(1)
Cobaltonitrites (nitrocobaltates)	28.48(1)
Cobaltous carbonate, basic	+28.42(3)
Cobaltous fluoride	28.29(1)
Cobaltous fluoroborate	28.29(1)
Cobaltous tungstate (cobalt tungstate; cobalt wolframate)	28.47(1)
Cocaine (methylbenzoylecgonine)	29.42(1)
Cocaine hydrochloride	29.42(1)
Codeine (methyilmorphine, monomethyl ether of morphine)	29.42(1)
Codeine phosphate	29.42(1)
Colchicine	29.42(1)
Conductivity water	28.58(1)
Coniine (propyl pyridine)	29.42(1)
Copper acetate, neutral (cupric acetate; crystals of Venus; verdigris, crystallized)	29.14(1)
Copper arsenates	28.41(1)
Copper arsenite (copper orthoarsenite; cupric arsenite; Scheele's green)	28.41(1)
Copper borate (copper metaborate; cupric borate)	28.46(1)
Copper carbonate	28.42(1)
Copper chlorate	28.32(1)
Copper ferrocyanide (cupric ferrocyanide)	28.43(1)
Copper fluoride (cupric fluoride)	28.29(1)
Copper fluorosilicate (copper silicofluoride; cupric fluosilicate; cupric silicofluoride)	28.29(1)
Copper hydroxychloride	28.30(1)
Copper mercury iodide (mercuric-cuprous iodide)	28.48(1)
Copper oleate (cupric oleate)	29.14(1)
Copper oxybromides	28.33
Copper oxychloride	28.30(1)
Copper oxychloride sulphate	28.48(1)
Copper oxyiodide	28.34(1)
Copper phosphate (cupric phosphate)	28.40(1)
Copper silicide (silicon-copper)	28.57(1)
Copper stearate (cupric stearate)	29.14(1)
Copper sulphate, tribasic	28.38(1)
Copper sulphides	28.35(1)
Copper tungstate (cupric tungstate; copper tungstate normal; copper wolframate)	28.47(1)
Corticosterone (compound B)	29.39(1)

<u>Existing Item</u>	<u>Recommended Item</u>
208t (20839-1)(Cont'd)	
Cortisol (see hydrocortisone)	
Cortisone (17-alpha-hydroxy-11-dehydro- corticosterone; compound E)	29.39(1)
Cortisone acetate (CA)	29.39(1)
Cotarnine	29.42(1)
Coumarin (benzoalphapyrone; benzopyrone; cumarin; tonka bean camphor)	29.35(1)
Coumarone (benzofuran; cumarone)	29.35(1)
Creosote, wood (e.g. beechwood creosote)	+38.09
Cresidine (m-amino-p-cresol methyl ether)	29.23(1)
m-Cresol (meta-cresylic acid; 3-methylphenol; meta-oxy-toluene)	29.06(1)
p-Cresol (para-cresylic acid; 4-methylphenol; para-oxy-toluene)	29.06(1)
Cresol, mixed isomers (cresyl alcohol; methyl phenol), other than B.P. and U.S.P. grades	29.06(1)
p-Cresyl phenylacetate	29.14(1)
Cumene (cumol, isopropylbenzene, iso- propylbenzol)	29.01(1)
Cupric bromide	28.33
Cupric chloride (copper chloride)	28.30(1)
Cupric cyanide (copper cyanide)	28.43(1)
Cupric dimethyl dithiocarbamate	29.31(1)
Cupric nitrate (copper nitrate)	28.39(1)
Cupric pentamethylene dithiocarbamate	29.35(1)
Cupric sulphate, dehydrated, of A.R. or C.P. grade	+28.38(11)
Cupric thiocyanate	28.44
Cuprous bromide	28.33
Cuprous chloride	28.30(1)
Cuprous cyanide	28.43(1)
Cuprous sulphate	28.38(1)
Cuprous thiocyanate (copper sulphocyanide)	28.44
Curarine	29.42(1)
Cyanamide (carbodiimide; cyanogenamide)	28.58(1)
Cyanoacetamide (malonamide nitrile; propionamide nitrile)	29.27(1)
Cyanoacetic hydrazide	29.29
b-Cyanoethylomethyldiethoxysilane	29.34(1)
b-Cyanoethyltriethoxysilane	29.34(1)
Cyanogen	28.58(1)
Cyanogen chloride	28.58(1)
Cyanopalladites	28.49(1)
Cyanopinacoline	29.27(1)
Cyanorhodites	28.49(1)
Cyclandelate (3,3,5-trimethylcyclohexyl mandelate)	29.16(1)
Cyclizine hydrochloride (1-diphenylmethyl-4- methylpiperazine hydrochloride)	29.35(1)
Cyclobutane (tetramethylene)	29.01(1)
Cyclobutene (cyclobutylene)	29.01(1)
Cyclohexane (hexahydrobenzene, hexa- methylene, hexanaphthene)	29.01(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Cyclohexanone (ketahexamethylene; pimelic ketone)	29.13(1)
Cyclohexanone oxime	29.29
Cyclohexanone peroxide (1-hydroperoxy-1'-hydroxy-dicyclohexyl peroxide)	29.08(1)
Cyclohexene (1,2,3,4-tetrahydrobenzene)	29.01(1)
Cyclohexenylmethylmalonylurea	29.25(1)
Cyclohexylamine (aminocyclohexane; hexahydroaniline)	29.22(1)
Cyclohexyl thioglycollate	29.31(1)
Cyclo-octatetrene	29.01(1)
Cyclopentanone (adipic ketone)	29.13(1)
Cyclopentene	29.01(1)
Cyclopropane for other than anaesthetic purposes (trimethylene)	29.01(1)
Cycloserine (D-4-amino-3-isoazolidone; oxamycin)	29.44(1)
Cymene (cymol, isopropyltoluene, isopropyltoluol, methylpropylbenzene) ortho- and meta-cymene	29.01(1)
Dalapon (see sodium-2,2-dichloropropionate)	29.01(1)
Decahydronaphthalene	29.34(1)
Decamethylcyclopentasiloxane	
Decyl sulphate and the ammonium, lithium, potassium and sodium salts of decyl hydrogen sulphate	+29.17(3)
7-Dehydrocholesteryl acetate irradiated	+29.38(9)
7-Dehydrocholesteryl acetate non-irradiated	+29.38(9)
11-Dehydrocorticosterone	29.39(1)
7-Dehydro-beta-sitosterol, irradiated (see Vitamin D ₅)	
7-Dehydro-beta-sitosterol, non-irradiated (see provitamin D ₅)	
Dehydrothioparatoluidine(2-(para-aminophenyl)-6-methylbenzothiazole	29.35(1)
Demeton (diethyl ethyl thioethyldithiophosphate)	29.31(1)
Deoxycorticosterone (cortical hormone; deoxycortone; desoxycorticosterone)	29.39(1)
Deoxycorticosterone acetate (desoxycorticosterone acetate)	29.39(1)
Deoxycorticosterone tetra-acetyl-beta-D-glucoside	29.39(1)
Deoxycorticosterone-6-(beta-lactoside)-D-glucoside	29.39(1)
Deserpidine (canescine; 11-demthoxyreserpine)	29.42(1)
Desoxycorticosterone acetate (see deoxycorticosterone acetate)	
Desoxyephedrine (see methylamphetamine)	
Deuterium (heavy hydrogen)	+28.51

<u>Existing Item</u>	<u>Recommended Item</u>
208t (20839-1)(Cont'd)	
Dexamethasone (9-alpha-fluoro-16-alpha-methylprednisolone; 9-alpha-fluoro-16-alpha-methyl-delta-hydrocortisone)	29.39(1)
Dexamethasone-21-(disodium phosphate)	29.39(1)
Dexamphetamine (see amphetamine)	
Dexamphetamine sulphate (see amphetamine sulphate)	
Dextroamphetamine sulphate (see amphetamine sulphate)	
Dextro-chlorpheniramine dextro-2-P-chloro-(2-dimethylaminoethyl)benzyl pyridine maleate	29.35(1)
Dextromethorphan hydrobromide (d-3-methoxy-N-methylmorphinan hydrobromide)	29.35(1)
Diacetone alcohol (diacetone; 4-hydroxy-4-methylpentanone; 4-hydroxy-2-keto-4-methylpentone)	+29.13(4)
3,3-Di(para-acetoxyphenyl) oxindole (diocetyldehydroxyphenylisatin)	29.37
3a, 12a-Diacetoxypregnan-20-one	+29.14(25)
Diacetylmorphine (diamorphine; heroin)	29.42(1)
Diaminoanthraquinones	29.23(1)
Diaminodiphenylamine (para-para'-diaminodiphenylamine)	29.22(1)
1,2-Diaminoethane (see ethylenediamine)	
2,5-Diamino-7-ethoxyacridine lactate	29.35(1)
Diaminophenols	29.23(1)
p-Diaminostilbene (diaminodiphenylethylene)	29.22(1)
Diamylammonium diamyl dithiocarbamate	+29.31(2)
Diamylether (amyl oxide; amyl ether)	29.08(1)
Diamyl phthalate	29.15(1)
Diamisidine (di-p-aminodi-m-methoxydiphenyl; 3,3'-dimethoxybenzidine)	29.23(1)
"Diazinon" (O,O-diethyl-O(2-isopropyl-6-methyl-4-pyrimidinyl)phosphorothioate)	29.35(1)
Diazoaminobenzene (diazobenzeneanilide; benzeneazoanilide)	29.28
Dibenzoyl disulphide (benzil disulphide)	29.31(1)
Dibenzylamine	29.22(1)
Dibenzyl ether	29.08(1)
Dibenzylethylenediamine	29.22(1)
N,N'-Dibenzylethylenediamine diacetate	29.22(1)
d-3,4(1'3'-Dibenzyl-2'-keto-imidazolide)-1,2-trimethylene thiopanium d-camphorsulphonate	29.35(1)
Dibenzyl sebacate	29.15(1)
Dibenzyl succinate (benzyl succinate)	29.15(1)
Di(2,2-butoxyethoxy)ethyl adipate	29.15(1)
Di(2-butoxyethyl)phthalate	29.15(1)
Dibutylamine	29.22(1)
Di(butyl-p-aminobenzoate)trinitrophenol ("Butesin picrate")	29.23(1)
Dibutyl ammonium dibutyl dithiocarbamate	29.31(1)
Dibutyl dithiodiglycollate	29.31(1)
Dibutyl ether	29.08(1)
Dibutyl phenol	29.06(1)
N,N'-Dibutyl thiourea	29.31(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Dibutyltin dilaurate	29.34(1)
1,4-Di(carboxymethylthio) butane	29.31(1)
2,2-Di(carboxymethylthio)diethyl ether	29.31(1)
1,2-Di(carboxymethylthio)ethane	29.31(1)
1,1-Di(carboxymethylthio)methane	29.31(1)
Dichloroacetyl chloride	29.14(1)
Dichloroallyl di-isopropylthiocarbamate	29.31(1)
2,5-Dichloroaniline	29.22(1)
meta-Dichlorobenzene (1,3-dichlorobenzene)	29.02(1)
ortho-Dichlorobenzene (1,2-dichlorobenzene)	+29.02(5)
3,3'-Dichlorobenzidine	29.22(1)
Dichloro chloroanilinotriazine	29.35(1)
Dichlorodimethyl hydantoin	29.25(1)
Dichlorodiphenyldichloroethane (TDE; 2,2-bis(para-chlorophenyl)-1, 1-dichloroethane)	29.02(1)
Dichlorodiphenyltrichloroethane (DDT; chlorophenothane; dicophane; 1,1,1-tri- chloro-2,2-bis(para-chlorophenyl)ethane; trichloro-di(chlorophenyl)ethane)	29.02(1)
Dichlorofluoroethane	+29.02(3)
Dichloromonofluoromethane	+29.02(4)
1:4-Dichloronaphthalene	29.02(1)
2,3-Dichloro-1,4-naphthoquinone	29.13(1)
Dichlorophene (2,2'dihydroxy-5,5'- dichlorodiphenylmethane; 2,2'methylene-bis- (4-chlorophenol); bis(5-chloro-2-hydroxy- phenyl)methane; DDM; DDDM)	29.07(1)
2,6-Dichlorophenolindophenol	29.26(1)
2,4-Dichlorophenoxyacetic acid amine salts	+29.22(5)
2,4-Dichlorophenoxybutyric acid	29.16(1)
Dichlorophenyl benzene sulphonate	29.07(1)
Dichlorophenylmethylisopropyl phosphor- amidothioate	29.22(1)
Dichlorophthalic anhydride	29.15(1)
Dicoumarol (bishydroxycoumarin; dicoumarin)	29.35(1)
Dicyandiamide (cyanoguanidine)	+29.27(5)
N,N-Dicyclohexyl-2-benzothiazole sulphenamide	29.35(1)
Di-n-decyl adipate	29.15(1)
Didecyl phthalate	+29.15(12)
Didodecyl-o-cresol	29.06(1)
Didodecyl phenol	+29.06(6)
Di-n-dodecyl-3,3'-thiopropionate	29.31(1)
Didymium chloride	28.52(1)
Didymium fluoride	28.52(1)
Didymium nitrate	28.52(1)
Didymium oxide	28.52(1)
Dieldrin (HEOD)	29.09(1)
Dienoestrol (dienestrol; 3,4-bis(para- hydroxyphenyl)-2,4-hexadiene)	29.06(1)
Di (2(2 ethoxy)ethyl)phthalate	29.15(1)
Diethylacetal (acetal; 1,1-diethoxyethane ethylidene diethyl ether)	29.10(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Diethylamide of pyridine - betacarboxylic acid (see nikethamide)	
Diethylamine	29.22(1)
Diethylaminoethanol	29.23(1)
Diethylaniline	29.22(1)
Di-2-ethylbutyl phthalate (dihexyl phthalate)	+29.15(13)
Diethyl carbonate (ethyl carbonate)	29.20
Diethylchloromethylcoumarinyl thiophosphate	29.35(1)
Diethyl-p-chlorophenylthiomethyl dithiophosphate	29.31(1)
Diethyldichlorophenyl thiosulphate	29.21
3,3-Diethyl-1-2,4-dioxopiperidine	29.35(1)
Diethyldiphenylurea (carbamate; centralite; ethylcentralite; N,N'-diethyl carbanilide)	29.25(1)
Diethylene glycol monophenyl ether	29.08(1)
Diethylene glycol phthalate (diglycol phthalate)	29.15(1)
Diethylenetriamine-N,N,N',N'',N'''-pentacetic acid: the di-basic and tri-basic calcium, iron and potassium salts of	+29.23(3)
Diethyl ethylthioethyldithiophosphate (see Demeton)	
Di (2-ethylhexyl) hexahydrophthalate (dioctyl hexahydrophthalate)	29.15(1)
Di (2-ethylhexyl) isodecyl phthalate	29.15(1)
Di (2-ethylhexyl) maleate	29.15(1)
Diethylketone (ethyl propionyl; metacetone; 3-pentanone; propione)	29.13(1)
Diethyl malonate (ethyl malonate; malonic ester)	29.15(1)
Diethyl mercury	29.33
Diethyl oxalate (ethyl oxalate)	29.15(1)
Diethyl peroxide	29.08(1)
Diethyl phthalate (ethyl phthalate)	29.15(1)
Diethyl succinate	29.15(1)
Diethyl sulphate (ethyl sulphate)	29.17(1)
N,N'-Diethyl thiourea	29.31(1)
6-alpha,9-alpha-Difluoro-11-beta-21-dihydroxy-16-alpha,17-alpha-isopropylidenedioxypregna-1,4-diene-3,20-dione (fluocinolone acetonide; 6-alpha,9-alpha-difluoro-16-alpha-hydroxy-prednisolone-16,17-acetonide)	29.39(1)
N,N'-Difurfuryl thiourea	29.35(1)
Digitalin	29.41(1)
Digitalis (fairy gloves; foxglove; purple foxglove)	29.41(1)
Digitonin (see saponins)	
Digitoxin	29.41(1)
Digitoxose	29.43(1)
Diglycol laurate (diethylene glycol monolaurate)	+29.14(26)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Diglycol oleate (diethylene glycol mono-oleate)	+29.14(27)
Diglycol stearate (diethylene glycol monostearate)	+29.14(28)
Digoxin	29.41(1)
Diguaiacyl carbonate (guaiacol carbonate; neutral guaiacol carbonate)	29.20
Dihydrocarveyl acetate	29.14(1)
Dihydrocodeine	29.42(1)
Dihydrocodeinone	29.42(1)
22,23-Dihydroergosterol, irradiated (see Vitamin D ₄)	
22,23-Dihydroergosterol, non-irradiated (see provitamin D ₄)	
22,23-Dihydroergosteryl acetate, non-irradiated	29.38(1)
Dihydrohydroxycodeinone	29.42(1)
Dihydrophyllloquinone (3-dihydrophytyl-2-methyl-1,4-naphthaquinone)	29.38(1)
Dihydrostreptomycin (DHS) and its salts	29.44(1)
Dihydrostreptomycin sulphate (see dihydrostreptomycin)	
Dihydrotachysterol	29.05(1)
Dihydroxycoumarine (aesculetin and daphnetin)	29.35(1)
Dihydroxynaphthalenes	29.06(1)
3,6a-Dihydroxypregnan-20-one	+29.13(5)
2,3-Dihydroxyquinoxaline	29.35(1)
Diiodohydroxyquin (diiodohydroxyquinoline; 5,7-diiodo-8-quinolinol)	29.35(1)
Di-iodomethane (methylene iodide)	29.02(1)
Di-isobutyl adipate	29.15(1)
Di-isobutyl azelate	29.15(1)
Di-isobutyl carbonyl phthalate	29.15(1)
Di-isohexyl phthalate	29.15(1)
Di-iso-octyl azelate	+29.15(21)
Di-isopropylbenzene hydroperoxide	29.08(1)
N,N-Diisopropyl-2-benzothiazolesulphenamide	29.35(1)
Di-isopropyl ether (isopropyl ether)	29.08(1)
Di-isopropyl xanthogen disulphide	29.31(1)
Diketen (acetyl ketene; diketene)	29.45(1)
Dimenhydrinate (2-(benzohydroxy)-N,N-dimethylethylamine-8-chlorotheophyllinate)	29.42(1)
Dimethisoquin (3-butyl-1-(2-dimethylaminoethoxy) isoquinoline)	29.35(1)
Dimethisterone	29.39(1)
Dimethoxanate hydrochloride	29.35(1)
2,4-Dimethoxy-6-sulphanilamide-1,3-diazine	29.36(1)
Dimethylacetal (ethylidenedimethyl ether)	29.10(1)
Dimethylacetamide (DMAC)	29.25(1)
Dimethylamine (DMA)	29.22(1)
4-Dimethylamine-1,5-dimethyl-2-phenyl-3-pyrazalone	29.35(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Dimethylaminoazobenzene (methyl yellow; butter yellow)	29.28
Dimethylaminocyclohexane	29.22(1)
2-Dimethylamino-6-(b-dimethylamino- ethoxy)benzothiazole dihydrochloride	29.35(1)
4-Dimethylamino-2,3-dimethyl-1-phenyl-3- pyrazolin-5-one	29.35(1)
4-(2-dimethyl-aminoethoxy)-N-(3,4,5,- trimethoxybenzoyl)benzylamine hydrochloride (trimetholbenzamide hydrochloride)	29.23(1)
2-Dimethylaminoethyl-2-butylbenzoate hydrochloride	29.23(1)
Dimethylaminoxyl methyl carbamate	29.25(1)
Dimethylammonium dimethyldithiocarbamate	29.31(1)
Dimethyl benzyl carbonyl acetate	29.14(1)
Dimethyl carbamate	29.25(1)
Dimethyl carbomethoxy propenyl phosphate	29.19(1)
Dimethyl cyclohexanol	29.05(1)
Dimethyldiaminotriazinylmethyl dithio- phosphate	29.35(1)
Dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate	29.19(1)
Dimethyldichlorosilane	29.34(1)
Dimethyl dichlorovinyl phosphate (DDVP; dichlorvos; O'-O'-dimethyl-2,2-dichlorovinyl phosphate)	29.19(1)
Dimethyldiethoxysilane	29.34(1)
Dimethyldimethylaminophenylpyrazolone (see aminopyrine)	
1,1'-Dimethyl-4,4'-dipyridylium dichloride	29.35(1)
Dimethylglyoxime (butane dioxime)	29.29
Dimethyl hydroquinone (1,4-dimethoxybenzene; hydroquinone dimethyl ether)	29.08(1)
Dimethylnitrosamine	29.22(1)
Dimethylnitrosoaniline	29.22(1)
Dimethyl oxalate	29.15(1)
Dimethyl oxobenzotriazinomethyl dithiophosphate	29.35(1)
Dimethyl-phenylpyrazolone (see antipyrene)	
Dimethyl phthalate	29.15(1)
2,5-Dimethylpiperazine (dimethyldiethylene- diamine; lupetazine)	29.35(1)
dl-a-1,3-Dimethyl-4-propionoxypiperidine hydrochloride	29.35(1)
6,6'-Dimethyl-2,2'-pyridoin	29.35(1)
2,5-Dimethylquinol (2,5-dimethylhydroquinone)	29.06(1)
3,4 - Dimethyl-5-sulphanilamide isoxazole (see sulphafurazole)	
Dimethyl sulphide (methanethiomethane; methyl sulphide)	29.31(1)
Dimethyl terephthalate (DMT)	+29.15(25)
Dimethyl tetrahydrothiadiazinethione	29.35(1)
0,0-Dimethyl-0-(2,4,5-trichlorophenyl) phosphorothionate (dimethyltrichlorophenyl thiophosphate;ronnel)	29.21

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
Di-b-naphthyl-p-phenylenediamine (DMPD)	29.22(1)
Dinex (2-cyclohexyl-4,6-dinitrophenyl)	29.07(1)
meta-Dinitrobenzene	29.03(1)
Dinitrocapryl phenyl crotonate	29.14(1)
Dinitrocresol	29.07(1)
Dinitrophenols	29.07(1)
Dinitrosopentamethylene tetramine	
(3,7-dinitroso-1,3,5,7-tetra-azabicyclo	
(3,3,1)nonane)	+29.35(7)
Dinitrotoluene (DNT; dinitrotoluol)	+29.03(4)
Dinonyl adipate (DNA)	29.15(1)
Dinonyl-o-cresol	29.06(1)
Dinonyl phenol	+29.06(7)
Dinonyl phthalate (DNP)	29.15(1)
Dinoseb (2-sec-butyl-4,6-dinitrophenyl)	29.07(1)
Diocetyl-o-cresol	29.06(1)
Diocetyl phenol	29.06(1)
Diorthotolylguanidine	29.26(1)
Diorthotolylthiourea (ortho-ditolylthiourea)	29.31(1)
1,3-Dioxan	29.10(1)
1,4-Dioxan (1,4-dioxane; 1,4-diethylene	
dioxide; diethylene ether)	29.08(1)
Dioxane-bis(diethyl)dithiophosphate	29.21
1,3-Dioxolan	29.10(1)
Dipentamethylene thiuram disulphide	29.35(1)
Dipentamethylene thiuram monosulphide	29.35(1)
Dipentamethylene thiuram tetrasulphide	29.35(1)
1,2-Diphenoxyethane (see ethylene glycol	
diphenyl ether)	
Diphenyl (biphenyl)	29.01(1)
Diphenylcarbazine	29.29
Diphenyldichlorosilane	29.34(1)
Diphenyldiethoxysilane	29.34(1)
Diphenyl ether (diphenyl oxide; phenyl	
ether)	29.08(1)
Diphenylethylenediamine (ethylene diphenyl-	
diamine)	29.22(1)
Diphenylguanidine (DPG; melalinine)	29.26(1)
Diphenyl isodecyl phosphite	29.21
Diphenyl keten	29.45(1)
Di(phenyl mercuric) dodecenyl succinate	29.33(1)
Diphenyl mercury	29.33(1)
Diphenylmethane (benzylbenzene)	29.01(1)
Diphenylmethane di-isocyanate (bis-	
isocyanatophenylmethane; bis(p-iso-	
cyanatophenyl)methane)	29.30(1)
Diphenylmethanol (benzhydrol; benzohydrol;	
diphenylcarbinol)	29.05(1)
Diphenylsilanediol	29.34(1)
Diphenyl sulphide	29.31(1)
Diphenylthiourea (see thiocarbanilide)	
Dipipanone hydrochloride	29.35(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Dipropylene glycol dibenzoate	29.14(1)
Dipropyl isocinchomeronate	29.35(1)
Disodium ethylene bisdithiocarbamate	+29.31(3)
Disodium- α -glycerophosphate (see sodium glycerophosphate)	
Disodium hydroxyethylethylenediaminetriacetate	29.23(1)
Disodium methyl arsonate (DMA:disodium methane-arsonate; methane arsonic acid disodium salt)	29.32(1)
Disodium- α -tocopheryl phosphate	29.38(1)
Disulphur trioxide	28.13(1)
Ditolyl ether	29.08(1)
Diuron (3-(3,4-dichlorophenyl)-1,1-dimethylurea)	29.25(1)
Divinylbenzene (vinylstyrene)	29.01(1)
Dodecamethylcyclohexasiloxane	29.34(1)
Dodecyl alcohol (dodecanol; lauryl alcohol)	29.04(1)
Dodecyl benzene sulphonate	+34.02
Dodecyl-o-cresol	29.06(1)
6-Dodecyl-1,2-dihydro-2,2,4-trimethylquinoline	29.35(1)
n-Dodecyl mercaptan	29.31(1)
tert-Dodecyl mercaptan (lauryl mercaptan)	29.31(1)
Dodecyl phenol	+29.06(8)
Dodine (N-dodecylguanidine acetate)	29.26(1)
Domiphen bromide (dodecyldimethyl (2-phenoxy-ethyl)ammonium bromide)	29.24(1)
Drugs, n.o.p., of a kind not produced in Canada	R-10 208t
Dysprosium	28.05(1)
Electro-osmotic water	28.58(1)
Emetine	29.42(1)
Endrin	29.09(1)
Ephedrine (α -hydroxy-beta-methylamino-propylbenzene; 1-phenyl-2-methyl-aminopropanol)	29.42(1)
Ephedrine hydrochloride (1-phenyl-2-methylaminopropanol hydrochloride)	29.42(1)
Ephedrine sulphate (1-phenyl-2-methylamino-propanol sulphate)	29.42(1)
Epichlorohydrin (epi; chloropropylene oxide)	+29.09(2)
Epinephrine (see adrenalin)	
Epinephrine racemic	29.39(1)
Epoxy alcohols	29.09(1)
3,4-Epoxy-cyclohexylethyltrimethoxysilane	29.34(1)
Epoxyethers	29.09(1)
Epoxyphenols	29.09(1)
Equilenin	29.39(1)
Equilin	29.39(1)
Erbium	28.05(1)
Erbon	29.14(1)
Ergometrine maleate	29.42(1)
Ergometrine tartrate	29.42(1)
Ergosterin, irradiated (see Vitamin D ₂)	

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Ergosterin, non-irradiated (see pro- vitamin D ₂)	
Ergosterol, irradiated (see Vitamin D ₂)	
Ergosterol, non-irradiated (see pro- vitamin D ₂)	
Ergosteryl acetate, non-irradiated	29.38(1)
Ergotamine	29.42(1)
Ergotamine tartrate	29.42(1)
Erthromycin ethyl succinate (see erythromycin)	
Erythritol tetranitrate (erythrityl tetranitrate; nitroerythrite; tetranitrol)	29.18(1)
Erythromycin and its derivatives	29.44(1)
Esters of resin acids	+38.08
Estradiol (see oestradiol)	
Estrone (see oestrone)	
Ethamicort (see hydrocortamate hydrochloride)	
Ethamivan (emivan; 3-methoxyl-4-hydroxy- benzoic acid diethylamide)	29.25(1)
Ethane (bimethyl, dimethyl, ethylhydride, methyl-methane)	29.01(1)
Ethchlorvynol (1-chloro-3-ethyl-1-penten-4- yn-3-ol; beta-chlorovinyl ethyl ethynyl carbinol)	29.04(1) 29.39(1)
Ethinylestradiol	
Ethion ((0,0,0',0'-tetraethyl-methylene- diphosphorodithioate; bis(s-diethoxyphosphino- thiyl) mercapto) methane)	29.31(1) 29.35(1)
Ethionamide	
Ethisterone (anhydrohydroxyprogesterone; ethynyltestosterone; pregneninolone)	29.39(1) 29.35(1)
Ethoheptazine (ethyl heptazine)	29.35(1)
Ethoheptazine citrate	29.25(1)
Ethotoin	+29.35(11)
6-Ethoxy-1,2-dihydro-2,2,4-trimethylquinoline	
para-Ethoxyphenylurea (dulcin; para- phenetolecarbamide; sucrol)	29.25(1) 29.25(1)
Ethylacetanilide (ethyl phenylacetamide)	
Ethyl acetoacetate (acetoacetic ester; diacetic ester)	29.16(1) +29.14(32)
Ethyl acrylate	29.22(1)
Ethylamine (aminoethane)	
Ethyl-p-aminobenzoate (see benzocaine)	
Ethylaniline	29.22(1)
Ethylbenzene (ethylbenzol, phenylethane)	29.01(1)
Ethyl benzoate	29.14(1)
2-Ethyl butanol (2-ethyl butyl alcohol; pseudo-hexyl alcohol)	29.04(1)
Ethyl carbamate (see urethane)	
Ethyl chloroformate (ethyl chlorocarbonate)	29.14(1)
2-Ethyl crotonoyl urea (ectylurea)	29.25(1)
Ethyl-beta-3,4-dihydroxyphenylpropionate	29.16(1)
Ethyldimethyl-3-3 hydroxyphenyl ammonium bromide	29.24(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Ethyldimethyl-3-3 hydroxyphenyl ammonium chloride	29.24(1)
Ethylene (bicarburetted hydrogen; elayl; ethene; olefiant gas)	+29.01(11)
Ethylenediamine (1,2-diaminoethane)	29.22(1)
Ethylenediaminetetra-acetic acid (EDTA; ethylenebisiminodiacetic acid; ethylene-dinitrilotetraacetic acid)-salts of, other than Sodium Salts	+29.23(5)
Ethylene dibromide (EDB; 1,2-dibromoethane; ethylene bromide)	+29.02(9)
1,1'-Ethylene-2,2' - dipyridylum dichloride	29.35(1)
Ethylene glycol diethyl ether	29.08(1)
Ethylene glycol diphenyl ether (1,2-diphenoxyethane)	29.08(1)
Ethylene glycol monophenyl ether	29.08(1)
Ethylene glycol bis-thioglycollate	29.31(1)
Ethylene thiourea (2-imidoazolidinethione; 2-mercaptoimidazoline)	29.35(1)
Ethylene bis thiuram monosulphide	29.35(1)
Ethyl formate	29.14(1)
2-Ethyl-1,3-hexanediol(ethohexadiol)	29.04(1)
2-Ethylhexyl acrylate	29.14(1)
2-Ethylhexyl-n-decyl phthalate	+29.15(27)
2-Ethylhexyl thioglycollate (see octyl thioglycollate)	
Ethyl hydrogen sulphate	29.17(1)
Ethyl hydroperoxide	29.08(1)
Ethyl-p-hydroxybenzoate	29.16(1)
Ethylideneaniline	29.26(1)
Ethylideneparatoluidine	29.26(1)
Ethyl isoeugenol ether	29.08(1)
Ethyl isopropyl ether	29.08(1)
Ethyl lactate	29.16(1)
Ethyl laurate	29.14(1)
Ethyl mercaptan (ethylsulphhydrate; ethanethiol)	29.31(1)
Ethyl mercury chloride	29.33(1)
Ethyl mercury nitrile	29.33(1)
Ethyl methacrylate	29.14(1)
Ethyl methyl ether	29.08(1)
Ethylmethylethylene	29.01(1)
Ethyl methyl ketoxime (methyl ethyl ketoxime)	29.29
Ethyl-N-methyl-phenylmalonylurea	29.25(1)
Ethylmorphine	29.42(1)
Ethylmorphine hydrochloride	29.42(1)
N-Ethyl morpholine	29.35(1)
Ethyl nitrate	29.18(1)
Ethylphenylmalonylurea	29.25(1)
N-Ethyl piperidine	29.35(1)
N'-Ethyl-piperidine penicillin, crude (see penicillin, crude)	

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Ethyl propionate (propionic ester)	29.14(1)
Ethylpropylallyl alcohol (2-ethyl-2-hexen-1-ol)	29.04(1)
Ethylprotocatechualdehyde (bourbonal; ethovan; ethyl vanillin, 3-ethoxy-4-hydroxybenzaldehyde; vanillal; vanirom)	29.11(1)
Ethyl stearate	29.14(1)
Ethyl tartrates	29.16(1)
N-Ethyl-1,2,5,6-tetrahydropyridine	29.35(1)
Ethyl thioglycollate	29.31(1)
Ethyltrichlorosilane	29.34(1)
Ethynyloestradiol (see ethinylestradiol)	
17-alpha-Ethynyltestosterone (see ethisterone)	
Eugenyl benzoate	29.14(1)
Europium	28.05(1)
Europium chloride	28.52(1)
Europium fluoride	28.52(1)
Europium nitrate	28.52(1)
Europium oxalate	28.52(1)
Europium oxide	28.52(1)
Europium sulphate	28.52(1)
Farnoquinone (see Vitamin K ₂)	
Fatty acid diethanolamide	+34.02
Fatty quaternary imidazolinium salts	+34.02
Fenchyl alcohol (fenchol; 1-hydroxyfenchane)	29.05(1)
Fenuron (3-phenyl-1,1-dimethylurea)	29.25(1)
Ferric chloride	28.30(1)
Ferric chromate (iron chromate)	28.47(1)
Ferric citrate (iron citrate)	29.16(1)
Ferric dimethyl dithiocarbamate (ferbam)	29.31(1)
Ferric glycerophosphate (iron glycerophosphate)	29.19(1)
Ferric nitrate (iron nitrate)	28.39(1)
Ferric potassium oxalate	29.15(1)
Ferric potassium sulphate	28.38(1)
Ferric potassium thiocyanate	28.48(1)
Ferric sodium oxalate	29.15(1)
Ferric sulphate (ferric sesquisulphate; ferric trisulphate; iron persulphate)	28.38(1)
Ferric vanadate (iron metavanadate)	28.47(1)
Ferrous chloride (iron chloride; iron dichloride; iron protochloride)	28.30(1)
Ferrous fluoroborate	28.29(1)
Ferrous gluconate (iron gluconate)	29.16(1)
Ferrous lactate (iron lactate)	29.16(1)
Ferrous potassium thiocyanate	28.48(1)
Fludrocortisone (9-alpha-fluorohydrocortisone)	29.39(1)
Fludrocortisone acetate (9-alpha-fluorohydrocortisone acetate)	29.39(1)
Fluoranthene (idryl)	29.01(1)
Fluorene (alpha-diphenylenemethane)	29.01(1)
Fluorine	28.01(3)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Fluoroaromatic sulphonamides	+34.02
Fluorochemical surface-active agents	+34.02
Fluorocortisone acetate (see fludro- cortisone acetate)	
9-alpha-Fluoro-11-beta-21-dihydroxy- 16-alpha,17-alpha-isopropylidenedioxy- pregna-1,4-diene-3,20-dione	29.39(1)
Fluorogermanates	28.29(1)
9-alpha-Fluoro-17-alpha-hydroxy- corticosterone-21-acetate	29.39(1)
9-alpha-Fluoro-11-beta-hydroxy-17-methyl- testosterone (9-alpha-fluoro-11-beta,17- beta-dihydroxy-17-alpha-methylandro-4- en-3-one)	29.39(1)
6-alpha-Fluoro-16-alpha-methylprednisolone	29.39(1)
9-alpha-Fluoro-16-alpha-methylprednisolone (see dexamethasone)	
9-alpha-Fluoro-16-beta-methylprednisolone	29.39(1)
Fluoroniobates	28.29(1)
Fluorophosphates	28.29(1)
9-Fluoroprednisolone	29.39(1)
Fluorostannates	28.29(1)
Fluorotantalates	28.29(1)
Fluorotitanates	28.29(1)
5-Fluorouracil	29.35(1)
Fluorozirconates	28.29(1)
Fluoxymesterone (9-alpha-fluoro-11 beta-17 beta-dihydroxy-17-alpha-methyl-4-adrostone- 3-one)	29.39(1)
Folic acid (see Vitamin B ₉)	
Follicle-stimulating hormone (F.S.H.; folliculostimulin)	29.39(1)
Formaldehyde sodium bisulphite (sodium formaldehyde bisulphite)	29.04(1)
Formamide (methanamide)	29.25(1)
Formylsulphathiazole	29.36(1)
Fructose (D(-)-fructose; fruit sugar; levulose)	29.43(1)
Fructose phosphate	29.43(1)
Fucose	29.43(1)
Furfural (ant oil, artificial; furfural- dehyde; pyromucic aldehyde)	29.35(1)
Furfuryl alcohol (furyl carbinol)	29.35(1)
Furfurylamine	29.35(1)
Gadolinium	28.05(1)
Galactose	29.43(1)
Germanates	28.47(1)
Germanium	R-36(1)
Germanium oxides	28.28(1)
Germanosulphates	28.48(1)
Glucono-d-lactone	29.35(1)
Glucosamine	29.23(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Glucose phosphate	29.43(1)
Glucuronolactone (glycuronic acid lactone)	29.35(1)
Glutamic acid hydrochloride (alpha-amino-glutaric acid hydrochloride)	29.23(1)
Glutethimide (2-ethyl-2-phenylglutarimide)	29.26(1)
Glycerol diacetate (diacetin)	29.14(1)
Glycerol monoacetate (acetin; monoacetin)	29.14(1)
Glycerol monoricinoleate	29.16(1)
Glycerol monosalicylate	29.16(1)
Glycerol tetranitrate	29.18(1)
Glycidoxypropyltrimethoxysilane	29.34(1)
Glycollaldehyde	29.11(1)
Glycol salicylate (glycol monosalicylate)	29.16(1)
Glycol stearate (ethylene glycol stearate)	29.14(1)
Glycyrrhizates	29.41(1)
Glycyrrhizin	29.41(1)
Glyodin (2-heptadecylglyoxalidine acetate; 2-heptadecyl-2-imidazoline acetate)	29.35(1)
Gold cyanide	28.49(1)
Gold sulphide	28.49(1)
Gramicidin	29.44(1)
Griseofulvin	29.44(1)
Growth inducing hormone (G.H.; G.S.H.; somatotrophic hormone; tetheline)	29.39(1)
Guaethol (ethyl guaiacol)	29.08(1)
Guaiacol (ortho-hydroxy-anisole; ortho-methoxyphenol; methylcatechol; pyrocatechol methyl ester)	29.08(1)
Guanidine (carbamidine; iminourea)	29.26(1)
Guanidine nitrate	+29.26(2)
Hafnium	R-36(1)
Hafnium nitride	28.57(1)
Halogen compounds of cyanogen (not including cyanogen bromide)	28.58(1)
Halogenated carbanilides	29.25(1)
Halogenated salicylanilides	29.25(1)
Halothane (2-bromo-2-chloro-1,1,1-trifluoroethane)	29.02(1)
Heavy acetylene	+28.51
Heavy methane	+28.51
Heliotropine (methyleneprotocatechualdehyde; piperonal; piperonyl aldehyde)	29.11(1)
Heliotropine sodium bisulphite (piperonaldehyde sodium bisulphite)	29.10(1)
Helium, liquefied	+28.04(4)
Heptachlorodicyclopentadiene	29.02(1)
Heptanal (aldehyde C-7; heptaldehyde; oenanthic aldehyde, oenanthal)	29.11(1)
Heptanols	29.04(1)
n-Heptoyl chloride	29.14(1)
Heptylenes (heptenes)	29.01(1)
Heptylresorcinol	29.06(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Hexa-amminonickel nitrate	28.48(1)
Hexachlorobenzene (perchlorobenzene)	29.02(1)
Hexachlorocyclohexane	29.02(1)
Hexachlorodiphenylmethane	29.02(1)
Hexachloroethane (carbon hexachloride; carbon trichloride; perchloroethane)	29.02(1)
Hexachlorophene (2,2'-methylene bis-(3,4,6- trichlorophenol); bis-(3,5,6-trichloro-2- hydroxyphenyl methane; 2,2'-di-hydroxy- 3,5,6,3',5',6'-hexachlorodiphenyl methane)	29.07(1)
Hexacontanes	29.01(1)
Hexamethylcyclotrisiloxane	29.34(1)
Hexamethyldisiloxane	29.34(1)
Hexamethylene diammonium sebacate	29.22(1)
Hexanetriol	29.04(1)
Hexanol (hexyl alcohol)	29.04(1)
Hexocyclium	29.35(1)
Hexoestrol (hexestrol; para, para'-(1,2- diethylethylene)diphenol)	29.06(1)
Hexylcaine hydrochloride (1-cyclohexylamino-2- propylbenzoate hydrochloride)	29.22(1)
Hexylenes (hexenes)	29.01(1)
Hexyl methacrylate	29.14(1)
Hexylresorcinol (1,3-dihydroxy-4-hexylbenzene)	29.06(1)
Hexyl sulphate and the ammonium, lithium, potassium and sodium salts of hexyl hydrogen sulphate	+29.17(5)
HHDN (1,2,3,4,10,10-hexachloro-1,4,4a,5, 8,8a-hexahydro-1,4,5,8-endo-exodimethano- naphthalene; active ingredient of aldrin)	29.02(1)
Histamine (4-aminoethylglyoxaline;4-imidazole ethylamine)	29.35(1)
Histamine dihydrochloride	29.35(1)
Histamine diphosphate	29.35(1)
l-Histidine monohydrochloride	29.35(1)
Holmium	28.05(1)
Homatropine	29.42(1)
Homatropine hydrobromide	29.42(1)
Homatropine hydrochloride	29.42(1)
Homatropine methobromide (homatropine methylbromide)	29.42(1)
Homatropine sulphate	29.42(1)
Hyaluronidase	29.40(1)
Hydantoin (glycolylurea)	29.25(1)
Hydralazine hydrochloride (1-hydrazino- phthalazine hydrochloride)	29.35(1)
Hydrazides of carboxylic acids	29.29
Hydrazine(diamine; hydrazine base; hydrazine anhydrous)	28.28(1)
Hydrazine hydrate (diamide hydrate)	28.28(1)
Hydrazine hydrochloride	28.28(1)
Hydrazine monohydrobromide	28.28(1)
Hydrazine monohydrochloride	28.28(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
Hydrazine sulphate (diamidogen sulphate; diamine sulphate)	28.28(1) 29.29
Hydrazinium: Quaternary salts and bases	
Hydroabietal alcohol (dihydroabietal alcohol)	+38.08
Hydrochlorothiazide (6-chloro-7-sulphamyl-3, 4-dihydro-1,2,4-benzothiadiazine-1,1- dioxide; 3,4-dihydrochlorothiazide)	29.36(1) 29.39(1)
Hydrocortamate hydrochloride (ethamicort)	
Hydrocortisone (compound F; cortisol; hydrocortisone alcohol; 17-hydroxy- corticosterone)	29.39(1) 29.39(1)
Hydrocortisone acetate	
Hydrocortisone alcohol (see hydrocortisone)	
Hydrocortisone diethylaminoacetate hydrochloride	29.39(1) 29.39(1)
Hydrocortisone sodium succinate	28.13(1)
Hydrogen selenide	
Hydrogen sulphide (hydrosulphuric acid; sulphuretted hydrogen)	28.13(1) 28.13(1)
Hydrogen telluride	29.35(1)
Hydromercuridibromofluorescein	29.42(1)
Hydroquinine	+37.08
Hydroquinone	
Hydroquinone (hydroquinol; para- dihydroxybenzene; quinol)	29.06(1) 28.28(1)
Hydroxammonium chloride	28.28(1)
Hydroxammonium nitrate	28.28(1)
Hydroxammonium sulphates	29.13(1)
alpha-Hydroxyanthraquinone	29.11(1)
p-Hydroxybenzaldehyde	
17-alpha-Hydroxycorticosterone (see hydrocortisone)	29.35(1)
7-Hydroxycoumarin (umbelliferone)	29.35(1)
8-Hydroxy-5,7-diiodoquinoline	
Hydroxyethylethylenediamine triacetic acid: the di-basic and tri-basic calcium, iron and potassium salts of	+29.23(7) 29.35(1)
N-2-Hydroxyethylpiperazine	
N-2-Hydroxyethylpiperidine (2-piperidino- ethanol)	29.35(1)
17-beta Hydroxy-2-hydroxymethylene-17- alpha-methyl-5-alpha-androstan-3-one	29.13(1) 28.28(1)
Hydroxylamine (oxammonium)	
17-beta-Hydroxy-17-alpha-methylandrosta- 4-en-3-one	29.39(1)
17-beta-Hydroxy-17-alpha-methylandrosta-1, 4-dien-3-one (methandienone)	29.13(1) 29.35(1)
Hydroxymethyl dibromomethyl pyridine	29.35(1)
3-Hydroxy-1-methyl-pyridinium bromide	
Hydroxymethyl riboflavine (methyl- olriboflavine)	29.38(1)

<u>Existing Item</u>	<u>Recommended Item</u>
208t (20839-1)(Cont'd)	
b-Hydroxynaphthoic anilide (naphthol AS; b-oxy-naphthoic anilide)	29.25(1)
b-Hydroxynaphthoic-p-chloranilide (naphthol AS-E)	29.25(1)
b-Hydroxynaphthoic-m-nitranilide (naphthol AS-BS)	29.25(1)
b-Hydroxynaphthoic-o-toluidide (naphthol AS-D)	29.25(1)
Hydroxyphenylacetoneitrile	29.27(1)
(N-Hydroxyphenyl) trimethyl ammonium dimethyl carbamate	29.25(1)
12a-Hydroxypregnan-3,20-dione	+29.13(8)
11a-Hydroxypren-4-ene-3,20 dione	29.13(1)
Hydroxyprogesterone	29.13(1)
Hydroxypropyl sucrose	29.43(1)
8-Hydroxyquinoline (oxine;oxyquinoline;8- quinolinol)	29.35(1)
3-,4-,5-,6- and 7-Hydroxyquinolines	29.35(1)
17-beta-Hydroxy-17-alpha-1-ynyloestr-4- en-3-one	29.13(1)
Hydroxyzine (1-(p-chloro-a-phenylbenzyl) -4-(2-hydroxyethoxyethyl piperazine))	29.35(1)
Hyoscine (1-scopolamine)	29.42(1)
Hyoscine methobromide (epoxytropine tropate methylbromide; methscopolamine bromide; scopolamine methylbromide)	29.42(1)
Hyoscine methonitrate (methylhyoscine nitrate)	29.42(1)
Hyoscyamine	29.42(1)
Hyoscyamine hydrobromide	29.42(1)
Hyperglycaemic glycogenolytic factor (glucagon; HGF; HG factor)	29.39(1)
Iminodiacetonitrile	29.27(1)
Indazole	29.35(1)
Indium	R-36(1)
Indole (2,3-benzopyrrole)	29.35(1)
Inositol (hexahydroxycyclohexane)	29.05(1)
meso-Inositol hexanicotinate	29.35(1)
Iodic acid anhydride (iodic acid anhydrous; iodine pentoxide)	28.13(1)
Iodine bromide (bromine iodide; iodine monobromide)	28.14(1)
Iodine chloride (iodine monochloride)	28.14(1)
Iodine trichloride	28.14(1)
Iodine trifluoride	28.14(1)
Iodochlorhydroxyquin (iodochlorohydroxy- quinoline;5-chloro-7-iodo-quinolinol; iodochloroxyquinoline)	29.35(1)
Iodoethane (ethyliodide)	29.02(1)
Iodoform (tri-iodomethane)	29.02(1)
Iodomethane (methyl iodide)	29.02(1)
Iodonitromethane	29.03(1)
Iodophenolphthalein	29.35(1)
Iodophenols	29.07(1)
Iodothiamine	29.38(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Iodothiamine hydrochloride	29.38(1)
Iodothiamine hydroiodide	29.38(1)
Iodotrinitromethane (iodopicrin)	29.03(1)
Insulin	29.39(1)
Ipronazide	29.35(1)
Iridium ammino compounds	28.49(1)
Iridium chloride	28.49(1)
Iridium double sulphates	28.49(1)
Iridium oxide	28.49(1)
Iridium tetrahydroxide	28.49(1)
Iron acetate (ferrous acetate)	29.14(1)
Iron boride	28.57(1)
Iron carbonate	28.42(1)
Iron carbonyl (iron pentacarbonyl)	29.34(1)
Iron citrate (see ferric citrate)	
Iron fluorosilicate	28.29(1)
Iron gluconate (see ferrous gluconate)	
Iron hydroxides	28.23(2)
Iron hypophosphite (ferric hypophosphite)	28.40(1)
Iron iodide (ferrous iodide; iron protoiodide)	28.34(1)
Iron lactate (see ferrous lactate)	
Iron oxalate (ferrous oxalate)	29.15(1)
Iron phosphate (ferric phosphate)	28.40(1)
Iron pyrophosphate (ferric pyrophosphate)	28.40(1)
Iron sulphides	28.35(1)
Iron tannate	32.02(2)
Isatin (isatic acid anhydride; isatic acid lactime; lactam of isatic acid; ortho- amino-benzoylformic acid; ortho-amino- phenylglyoxalic acid)	29.35(1)
Isobornyl thiocyanatoacetate	29.31(1)
Isobutyl-p-aminobenzoate (cycloform)	29.23(1)
Isobutyl-p-hydroxybenzoate	29.16(1)
Isobutyl isodecyl phthalate	29.15(1)
Isobutyl iso-octyl phthalate	29.15(1)
Iso butylquinoline	29.35(1)
Isobutyric anhydride	29.14(1)
Isocyanides (carbylamines)	29.30(1)
Isodecanol	29.04(1)
Isodecyl sulphate and the ammonium, lithium, potassium and sodium salts of isodecyl hydrogen sulphate	+29.17(6)
Isoniazid (INAH: isonicotinic acid hydrazide; N-isonicotinyl hydrazine)	29.35(1)
Iso nicotinylhydrazine	29.35(1)
I-Iso-nicotinyl-2-isopropyl hydrazine	29.35(1)
Iso-octyl sulphate and the ammonium, lithium, potassium and sodium salts of iso-octyl hydrogen sulphate	+29.17(7)
Iso-octyl thioglycollate	29.31(1)
Isopilocarpine hydrochloride	29.42(1)
Isopilocarpine nitrate	29.42(1)
Isoprene	29.01(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Isopropamide iodide (3-carbamoyl-3,3-diphenylpropyl diisopropyl methyl ammonium iodide)	29.25(1)
Isopropylchlorocarbanilate	29.25(1)
Isopropylethylene (3-methyl-1-butene)	29.01(1)
Isopropyl myristate	29.14(1)
Isopropyl oleate	+29.14(38)
Isopropyl palmitate	29.14(1)
Iso propylquinoline	29.35(1)
Isopropyl thioglycollate	29.31(1)
Isoproterenol sulphate (1-(3',4'-dihydroxy-phenyl)-2-isopropylaminoethanol sulphate; a-(isopropylaminoethyl)protocatechuyl alcohol sulphate; isopropylarterenol sulphate)	29.23(1)
Isoquinoline	29.35(1)
Isosorbide dinitrate (1,4,3,6-dianhydro-sorbitol-2,5-dinitrate)	29.18(1)
Isothipendyl hydrochloride	29.35(1)
Kalleone (kallikrein; vascomone)	29.39(1)
Kanamycin and its salts	29.44(1)
Keten (ketene)	29.45(1)
Krypton	28.04(5)
Lactogenic hormone (adenohypophyseal luteotropin; galactin; galactogene hormone; LTH; luteotropin; prolactin)	29.39(1)
Lactonitrile (acetaldehyde cyanohydrin; alpha-hydroxypropionitrile)	29.27(1)
Lactophosphates	29.19(1)
Lanthanum	28.05(1)
Lauric monoethanolamide	+29.25(6)
Lauryl alcohol	+15.10(3)
Lauryl chloroglyceryl ether	29.08(1)
Lauryl glycidyl ether	29.09(1)
Lauryl methacrylate	29.14(1)
Lauryl sulphate and the lithium and potassium salts of lauryl hydrogen sulphate	+29.17(8)
Lead acetate, neutral	+29.14(40)
Lead arsenates	28.41(1)
Lead arsenite	28.41(1)
Lead borate	28.46(1)
Lead chloride	28.30(1)
Lead dimethyl dithiocarbamate	29.31(1)
Lead dioxide (plumbic anhydride; puce oxide)	28.27(1)
Lead fluoride	28.29(1)
Lead fluosilicate (lead fluosilicate; lead silicofluoride)	28.29(1)
Lead hydride	28.57(1)
Lead hydroxychloride	28.30(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Lead hypophosphite	28.40(1)
Lead iodide	28.34(1)
Lead molybdate	28.47(1)
Lead nitrate, ground	28.39(1)
Lead oxychloride	28.30(1)
Lead oxyiodide	28.34(1)
Lead pentamethylene dithiocarbamate	29.35(1)
Lead perchlorate	28.32(1)
Lead phosphate (lead orthophosphate, normal)	28.40(1)
Lead potassium thiosulphate	28.48(1)
Lead silicate (lead metasilicate)	28.45(1)
Lead stearate, dibasic	+29.14(44)
Lead sulphate, artificial	28.38(1)
Lead sulphide (plumbous sulphide)	28.35(1)
Lead thiosulphate (lead hyposulphite)	28.37(1)
Lead titanate	28.47(1)
Levallorphan tartrate (1-N-allyl-3-hydroxymorphinan bitartrate)	29.35(1)
Levorphanol tartrate (levo-3-hydroxy-N-methylmorphinan tartrate dihydrate)	29.35(1)
Linear alkylate sulphonates	+34.02
Lithium	28.05(1)
Lithium 6	+28.51
Lithium 7	+28.51
Lithium acetate	29.14(1)
Lithium bromide	28.33
Lithium carbonate	28.42(1)
Lithium chloride	28.30(1)
Lithium citrate	29.16(1)
Lithium fluoride	28.29(1)
Lithium hydride	28.57(1)
Lithium hydroxides	28.28(1)
Lithium hypochlorite	28.31(1)
Lithium iodide	28.34(1)
Lithium peroxide	28.28(1)
Lithium salicylate	29.16(1)
Lithium stearate	+29.14(45)
Lithium sulphate	28.38(1)
Lobeline sulphate	29.42(1)
Luteinising hormone (ICSH; interstitial-cell-stimulating hormone; LH; luteinostimulin)	29.39(1)
Lutetium	28.05(1)
Lysidine (methylglyoxalidine)	29.35(1)
Lysine dihydrochloride	29.23(1)
Magnesium	R-36(1)
Magnesium aspartate	29.23(1)
Magnesium boride	28.57(1)
Magnesium bromide	28.33
Magnesium chloride	28.30(1)
Magnesium citrate	29.16(1)

<u>Existing Item</u>	<u>Recommended Item</u>
208t (20839-1)(Cont'd)	
Magnesium dithionite	28.36(1)
Magnesium fluoride (magnesium flux)	28.29(1)
Magnesium fluorosilicate (magnesium silicofluoride)	28.29(1)
Magnesium gluconate	29.16(1)
Magnesium glycerophosphate (magnesium glycerinophosphate)	29.19(1)
Magnesium hydroxide (magnesium hydrate), other than milk of magnesia	28.18(1)
Magnesium lactate	29.16(1)
Magnesium nitrate	28.39(1)
Magnesium oxide (magnesia; periclase), not less than 94 per cent pure	+28.18(2)
Magnesium oxide, n.o.p.	+R-20 296b(1)
Magnesium perborate	28.46(1)
Magnesium phosphate, tribasic (magnesium phosphate, neutral; trimagnesium phosphate)	28.40(1)
Magnesium phosphite	28.40(1)
Magnesium powder	+37.08
Magnesium silicates	28.45(1)
Magnesium silicide	28.57(1)
Magnesium sodium phosphate	28.48(1)
Magnesium stannate	28.47(1)
Magnesium sulphate (epsom salts), other than dried pure powder	28.38(1)
Magnesium sulphate - potassium sulphate, (potassium magnesium sulphate), containing in the dry state, more than 30 per cent by weight of K ₂ O	28.48(1)
Magnesium sulphate - potassium sulphate containing not more than 30 per cent by weight of K ₂ O	+31.00(2)
Magnesium sulphites	28.37(1)
Magnesium tungstate (magnesium wolframate)	28.47(1)
Malathion (O,O-dimethyl dithiophosphate of diethyl mercaptosuccinate)	29.31(1)
Malic acid (apple acid; hydroxysuccinic acid)	29.16(1)
Maltose (maltobiose; malt sugar)	29.43(1)
Mandelates, other	29.16(1)
Manganese borate	28.46(1)
Manganese boride	28.57(1)
Manganese carbide	28.56(1)
Manganese carbonate	28.42(1)
Manganese citrate (manganous citrate)	29.16(1)
Manganese ethylene bisdithiocarbamate (MnEBD; maneb)	+ 29.31(4)
Manganese gluconate	29.16(1)
Manganese glycerophosphate (manganese glycerinophosphate)	29.19(1)
Manganese hydroxides	28.28(1)
Manganese hypophosphite	28.40(1)
Manganese, n.o.p.	R-36(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Manganese saline hydroxide	28.28(1)
Manganese silicate (manganous silicate)	28.45(1)
Manganese silicide	28.57(1)
Manganese tannate	32.02(2)
Manganic hydroxide (hydrated manganic oxide; manganese hydroxide)	28.28(1)
Manganous chloride (manganese chloride)	28.30(1)
Manganous chromate (manganese chromate; manganous chromate basic)	28.47(1)
Manganous fluoride (manganese fluoride)	28.29(1)
Manganous hydroxide (manganese hydroxide)	28.28(1)
Manganous orthophosphate, tribasic	28.40(1)
Manganous pyrophosphate (manganese pyrophosphate)	28.40(1)
Manganous sulphate (manganese sulphate)	28.38(1)
Mannitol (manna sugar; mannite)	29.04(1)
Mecamylamine hydrochloride (3-methylamino- isocamphane hydrochloride; N,2,3,3- tetramethyl-2-norcamphamine hydrochloride)	29.22(1)
Meclizine hydrochloride (1-para-chloro- benzhydryl-4-methylbenzyl-piperazine dihydrochloride)	29.35(1)
Menadione (menaphthone; 2-methyl-1,4- naphthoquinone; vitamin K ₃)	29.13(1)
Menaphthone (see menadione)	29.16(1)
Menthyl salicylate	29.16(1)
Meperidine hydrochloride (isonipecaine hydrochloride; pethidine hydrochloride)	29.35(1)
Mephenisin (ortho-cresyl-alpha-glyceryl ether; 3-ortho-toloxyl-1,2-propanediol)	29.08(1)
Mephentermine sulphate (N-alpha, alpha- trimethylphenethylamine sulphate)	29.22(1)
Mercaptobenziminazole	29.35(1)
2-Mercaptobenzothiazole sulphenamide	29.35(1)
Mercuric chloride (corrosive sublimate; mercury chloride; mercury bichloride) A.R. grade	28.30(1)
	+37.08
Mercuric cyanide (mercury cyanide)	28.43(1)
Mercuric iodide (mercuric biniodide; mercury biniodide; mercury iodide, red; mercury iodide yellow)	28.34(1)
Mercuric nitrate (mercury nitrate; mercury pernitrate)	28.39(1)
Mercuric oxide	28.28(1)
Mercuric oxycyanide	28.43(1)
Mercuric sulphate (mercury persulphate; mercury sulphate)	28.38(1)
Mercuric thiocyanate (mercuric sulphocyanate; mercuric sulphocyanide; mercury sulpho- cyanate; mercury thiocyanate)	28.44

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Mercurous chloride (calomel; mercury chloride; mercury monochloride; mercury protochloride)	28.30(1)
Mercurous iodide (mercury protoiodide)	28.34(1)
Mercurous nitrate	28.39(1)
Mercurous sulphate	28.38(1)
Mercury arsenates	28.41(1)
Mercury borate	28.46(1)
Mercury fulminate	28.44
Mercury lactate	29.16(1)
Mercury subnitrate (basic mercury nitrate)	28.39(1)
Mercury sulphate, basic	28.38(1)
Mercury sulphides, artificial	28.35(1)
Mercury tannate	32.02(2)
Mesityl oxide (isopropylideneacetone; methylisobutanylketone; 4-methyl-3-penten-2-one)	+29.13(11)
Metal amides	28.58(1)
Metaldehyde	29.11(1)
Metaldehyde put up in tablets, sticks or similar forms for use as fuels	R-40(2)
Metallic derivatives of cyanamide, other than calcium cyanamide	28.58(1)
Methacholine chloride (acetyl-beta-methylcholine chloride)	29.24(1)
Methadone (dl-6-dimethylamino-4,4-diphenyl-3-heptanone)	29.23(1)
Methadone hydrochloride (dl-6-dimethylamino-4,4-diphenyl-3-heptanone hydrochloride)	29.23(1)
Methamphetamine hydrochloride (deoxyephedrine hydrochloride; 1-phenyl-2-methylaminopropane hydrochloride)	29.22(1)
Methapyrilene (2-((2-dimethylaminoethyl)-2-thenylamino) pyridine)	29.35(1)
Methapyrilene fumarate	29.35(1)
Methaqualone hydrochloride	29.35(1)
Methionine	29.31(1)
Methoxamine hydrochloride	29.23(1)
p-Methoxyacetophenone (see acetanisole)	
p-Methoxybenzylacetone	29.13(1)
Methoxychlor (methoxy DDT; DMDT)	29.08(1)
Methoxyphenamine hydrochloride (2-(ortho-methoxyphenyl)isopropylmethylaniline hydrochloride)	29.23(1)
Methscopolamine bromide (see hyoscyne methobromide)	
Methyclothiazide (6-chloro-3-chloromethyl-2-methyl-7-sulphamyl-3,4-dihydro-1,2,4-benzothiadiazine-1,1-dioxide)	29.36(1)
Methylacetanilide	29.25(1)
Methyl acetate	29.14(1)

<u>Existing Item</u>	<u>Recommended Item</u>
208t (20839-1)(Cont'd)	
Methylacetophenone (methyl tolyl ketone)	29.13(1)
Methyl acrylate	+29.14(49)
Methylal (dimethoxymethane; formal)	29.10(1)
Methylal chloride	29.10(1)
Methylallene	29.01(1)
Methylamine (monomethylamine)	29.22(1)
Methylamphetamine (desoxyephedrine)	29.42(1)
Methyl androstanolone	29.39(1)
Methylandrostenediol	29.05(1)
Methylaniline	29.22(1)
Methylantracenes	29.01(1)
Methylantraquinone	29.13(1)
Methyl benzoate	29.14(1)
p-Methylbenzylacetone	29.13(1)
2-Methyl-4-chlorophenoxyacetic acid amine salts	+29.22(13)
1-Methyl-4-(3-chloropropyl)-piperazine	29.35(1)
Methylcoumarin	29.35(1)
Methylcyclohexanone	29.13(1)
Methyldiazoaminobenzene	29.28
Methyl dichloroacetate	29.14(1)
Methyldichlorosilane	29.34(1)
Methylene dipiperidine	29.35(1)
Methyleneditannin	32.02(2)
Methyl ethers of butyl-meta-cresol	29.08(1)
Methyl ethers of meta-cresol	29.08(1)
Methyl ethyl ketoxime (see ethyl methyl ketoxime)	
Methyl formate	29.14(1)
N-Methyl furfurylamine	29.35(1)
Methyl gallate	29.16(1)
Methyl glucoside	29.43(1)
NN'-bis(Methylheptyl)-p-phenylenediamine	29.22(1)
Methyl hydantoin	29.25(1)
2-Methylhydrocortisone	29.39(1)
6-Methyl-delta-1-hydrocortisone (6-alpha-methylprednisolone)	29.39(1)
Methyl hydrogen sulphate (acid methyl sulphate; methyl sulphuric acid)	29.17(1)
Methyl-p-hydroxybenzoate (methyl paraben)	29.16(1)
Methylhyoscine nitrate (see hyoscine methonitrate)	
beta-Methylindole (see skatole)	
Methyl isonicotinate	29.35(1)
Methyl laurate (methyl dodecanoate)	29.14(1)
Methyl mercaptan (methanethiol)	29.31(1)
Methyl mercury nitrile	29.33
Methyl mercury oxinate	29.35(1)
Methyl methacrylate	29.14(1)
N-Methyl morpholine	29.35(1)
2-Methyl-1,4-naphthoquinone diphosphate	29.19(1)
Methyl naphthyl carbamate	29.25(1)
Methylnaphthyl ketone	29.13(1)
Methyl nicotinate	29.35(1)
Methyl nitrate	29.18(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Methyl nitrite	29.18(1)
Methylnitrosoaniline	29.22(1)
Methyl pentanal	29.11(1)
Methylphenyldichlorosilane	29.34(1)
Methylphenylhydrazine	29.29
2-Methyl-9-phenyl-tetrahydro-1-pyridindene hydrogen tartrate (phenindamine tartrate)	29.35(1)
1-Methylpiperazine	29.35(1)
2-Methyl piperidine (2-pipecoline)	29.35(1)
4-Methyl piperidine	29.35(1)
N-Methyl piperidine	29.35(1)
6-alpha-Methylprednisolone (see 6-methyl-delta-1-hydrocortisone)	
Methyl n-propyl ketone (MPK; ethyl acetone; 2-pentanone)	29.13(1)
Methylquinoline	29.35(1)
Methylstyrenes (other than alpha-methylstyrene)	29.01(1)
Methyl testosterone (17-methyl-testosterone)	29.39(1)
N-Methyl tetrahydrofurfurylamine	29.35(1)
N-Methyl-1,2,5,6-tetrahydropyridine	29.35(1)
Methyl thioglycollate	29.31(1)
6-Methyl-2-thiouracil (6MT; 6-methyl-2-thio-4-oxypyrimidine)	29.35(1)
Methyltrichlorosilane	29.34(1)
Methyltriethoxysilane	29.34(1)
Methyltri(2-methoxyethoxy) silane	29.34(1)
NN'-bis(1-methyl-3-(2,2,6-trimethylcyclohexyl)propyl-N,N'-dimethyl-1,6-hexanediamine-bis(methochloride))	29.22(1)
Methylvinylacetylene	29.01(1)
Methylvinyldichlorosilane	29.34(1)
Methyl xanthate	29.31(1)
Methypylon (3,3-diethyl-5-methyl-2,4-piperidinedione)	29.35(1)
Molecular sieves	+38.19(1)
Molybdenite powder, lubricant	R-40B
Molybdenum	R-36(1)
Molybdenum boride	28.57(1)
Molybdenum carbide	28.56(1)
Molybdenum disulphide (molybdenum sulphide; molybdic sulphide)	28.35(1)
Molybdenum hydroxides	28.28(1)
Molybdophosphates	28.48(1)
Monobutyl phenylphenol sodium mono-sulphonate	29.07(1)
Monocalcium citrate	+29.16(22)
Monochlorotrifluoromethane	+29.02(4)
Monoethanolamine thioglycollate	29.31(1)
Monoguaethyl ether of glycerol	29.08(1)
Monoisopropanolamine	29.23(1)
Monuron (3-para-chlorophenyl-1,1-dimethylurea; CMU)	29.25(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
Morphine	29.42(1)
Morphine hydrochloride	29.42(1)
Morphine sulphate	29.42(1)
Moskene (1,1,3,3,5-pentamethyl-4,6-dinitroindane)	29.03(1)
Musk ambrette (tertiary-Butyldinitro-metacresol methyl ether)	29.08(1)
Musk ketone (see tert-butyl-dimethyl-dinitroacetophenone)	
Musk xylol (musk xylene; 5 tertiary-Butyl-2:4:6-trinitrometaxylene; 2,4,6-trinitro-1,3-dimethyl-5-tert-butylbenzene; xylene musk)	29.03(1) +15.10(3)
Myristic alcohol	
Naphazoline hydrochloride (2-(1-naphthyl-methyl) imidazoline hydrochloride)	29.35(1)
Naphazoline nitrate	29.35(1)
Naphthalene, crude	+R-40A
1,4-Naphthaquinone	29.13(1)
Naphthenates, n.o.p., of a kind not made in Canada other than aluminum, barium, calcium and chromium naphthenates	+38.19(1)
Naphthenates and sulphonaphthenates, water soluble	+34.02
Naphthols (hydroxynaphthalenes)	29.06(1)
Naphthonitrile	29.27(1)
Naphthyl acetamide	29.25(1)
a-Naphthylamine	29.22(1)
b-Naphthylamine	29.22(1)
Naphthyl benzoate (benzonaphthol; benzoyl naphthol; beta-naphthol benzoate)	29.14(1)
beta-Naphthyl ethyl ether (see nerolin)	29.29
Naphthylhydrazine	
beta-Naphthyl methyl ether (see yara-yara)	29.16(1)
Naphthyl salicylates	29.42(1)
Narceine	29.42(1)
Narcotine	29.32(1)
Neoarsphenamine	28.05(1)
Neodymium	29.44(1)
Neomycin and its salts	
Neomycin sulphate (see neomycin)	28.04(6)
Neon	
Nerolin (bromelia; 2-ethoxynaphthalene; beta-naphthyl ethyl ether; nerolin II)	29.08(1)
Niacinamide (see nicotinamide)	
Nialamide (1-(2-(benzylcarbonyl)ethyl)-2-isonicotinoylhydrazine; N-isonicotinol-N-B-(N-benzylcarboxamide) ethyl hydrazine)	29.35(1)
Nickel borate	28.46(1)
Nickel carbonate	28.42(1)
Nickel carbonyl (nickel tetracarbonyl)	29.34(1)
Nickel chloride	28.30(1)
Nickel cyanide	28.43(1)
Nickel dibutyl dithiocarbamate	29.31(1)
Nickel dimethyl dithiocarbamate	29.31(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Nickel fluoroborate	28.29(1)
Nickel formate	29.14(1)
Nickel hydride	28.57(1)
Nickel hydroxide	28.28(1)
Nickel nitrate	28.39(1)
Nickel pentamethylene dithiocarbamate	29.35(1)
Nickel sulphate (blue salt), other than technical or commercial grade	28.38(1)
Nickelous fluoride	28.29(1)
Nicotinamide (niacinamide; nicotinic acid amide; PP factor)	29.38(1)
Nicotinamide hydrochloride	29.38(1)
Nicotinmethylanide	29.35(1)
Nicotinomorpholide	29.38(1)
Nikethamide (N,N-diethylnicotinamide; pyridine-3-carboxylic acid, diethylamide)	29.35(1)
Niobates	28.47(1)
Niobium (columbium)	R-36(1)
Niobium boride	28.57(1)
Niobium carbide	28.56(1)
Niobium nitride	28.57(1)
p-Nitroacetophenone	29.13(1)
Nitroaniline (nitraniline)	29.22(1)
m-Nitro-o-anisidine	29.23(1)
m-Nitro-p-anisidine	29.23(1)
Nitroanisoles (meta-, ortho-, and para-)	29.08(1)
m-Nitrobenzaldehyde (3-nitrobenzaldehyde)	29.12
Nitrobenzonitrile	29.27(1)
Nitrobenzoyl chlorides (meta-, ortho-, para-)	29.14(1)
Nitroethane	29.03(1)
Nitrogen 15	+28.51
Nitrogen dioxide (nitrogen peroxide)	28.13(1)
Nitrohydantoin	29.25(1)
Nitromethane	29.03(1)
Nitrophenetoles	29.08(1)
Nitrophenols	29.07(1)
Nitrophenylacetoneitrile	29.27(1)
Nitropropane	29.03(1)
5-Nitro-2-propoxyaniline	29.23(1)
Nitrosoaniline	29.22(1)
Nitrosobenzene	29.03(1)
Nitrosophenols	29.07(1)
Nitrosophenylhydroxylamine	29.29
N-Nitrosopiperidine	29.35(1)
Nitrosotoluene	29.03(1)
Nitrosyl chloride	28.14(1)
Nitrotoluene (methylnitrobenzene, methylnitrobenzol)	29.03(1)
m-Nitro-o-toluidine	29.22(1)
m-Nitro-p-toluidine (3-nitro-4-toluidine)	29.22(1)
p-Nitro-o-toluidine (4-nitro-2-toluidine)	29.22(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839) (Cont'd)</u>	
Nitrous oxide (laughing gas; nitrogen monoxide), liquefied	+28.13(6)
Nitroxylenes (dimethylnitrobenzene)	29.03(1)
Non-metallic chlorosulphides	28.58(1)
Non-metallic oxysulphides	28.58(1)
n-Nonyl alcohol (alcohol C-9; nonanol; octyl carbinol; pelargonic alcohol)	29.04(1)
Nonyl-o-cresol	29.06(1)
Nonyl sulphate and the ammonium, lithium, potassium and sodium salts of nonyl hydrogen sulphate	+29.17(9)
L-Noradrenaline (L-norepinephrine; lev-artenerol)	29.39(1)
L-Noradrenaline acid tartrate	29.39(1)
L-Noradrenaline hydrochloride	29.39(1)
L-Noradrenaline salicylate	29.39(1)
Norethandrolone (17-alpha-ethyl-17-hydroxy-19-nor-4-androsten-3-one; 17-alpha-ethyl-19-nortestosterone)	29.13(1)
Norethindrone (17-alpha-ethinyl-19-nortestosterone; 19-nor-17-alpha-ethynyltestosterone)	29.13(1)
Novobiocin and its salts	29.44(1)
Nucleic acids	29.35(1)
Nylidrin (p-Hydroxy-N-(1-methyl-3-phenylpropyl) norephedrine)	29.23(1)
Octachloronaphthalene	29.02(1)
Octachlorotetrahydro-4:7-endomethyl-eneindane	29.02(1)
Octamethylcyclotetrasiloxane	29.34(1)
Octamethyltrisiloxane	29.34(1)
Octanes	29.01(1)
Octanols, other than 2 ethyl hexyl alcohol	+29.04(11)
Octaphenylcyclotetrasiloxane	29.34(1)
n-Octyl acetate (acetate C-8; caprylyl acetate)	29.14(1)
N-Octylbicycloheptene dicarboxinamil	29.26(1)
Octyl-o-cresol	29.06(1)
n-Octyl n-decyl adipate	+29.15(33)
n-Octyl n-decyl phthalate	+29.15(34)
Octyl diphenyl phosphate	29.19(1)
Octylene glycol sebacate	29.15(1)
Octylenes	29.01(1)
Octyl phenol (di-isobutyl phenol)	29.06(1)
Octyl sulphate (2-ethylhexyl sulphate) and the ammonium, lithium, potassium and sodium salts of octyl hydrogen sulphate)	+29.17(10)
Octyl thioglycollate	29.31(1)
Oestradiol (dihydrofolliculin; estradiol)	29.39(1)
Oestradiol benzoate	29.39(1)
Oestradiol cyclopentylpropionate	29.39(1)
Oestradiol-3-17-dienanthate	29.39(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839) (Cont'd)</u>	
Oestradiol dipropionate	29.39(1)
Oestriol (estriol; folliculin hydrate; theelol)	29.39(1)
Oestrone (estrone; folliculin; alpha-follicular hormone; oestrin; theelin)	29.39(1)
Oestrone piperazine sulphate (see piperazine estrone sulphate)	
Oleandomycin and its salts	29.44(1)
Oleic diethanolamide	+29.25(10) +34.02
Oleic monoethanolamide	+29.25(11) +34.02
Oleyl alcohol (octadecenol)	+15.10(3) 29.04(1)
Oleyl sulphate and the ammonium, lithium, potassium and sodium salts of oleyl hydrogen sulphate	+29.17(11)
Orphenadrine dihydrogen citrate	29.23(1)
Orphenadrine hydrochloride (N,N-dimethyl-2-orthomethyl-alpha-phenylbenzyl-oxyethylamine hydrochloride)	29.23(1)
Osmiamates	28.49(1)
Osmium dioxide	28.49(1)
Osmium tetrachloride	28.49(1)
Osmium tetroxide (osmic acid anhydride; perosmic oxide)	28.49(1)
Osmium trichloride	28.49(1)
Oxethazaine	29.25(1)
2-Oxo-3-isobutyl-9,10-dimethoxy-1,3,4,6,7,11, b-hexanhydro-2H-benzo(a)quinolizine	29.35(1)
Oxybromides	28.14(1)
N-Oxydiethylene-2-benzothiazolesulphenamide	29.35(1)
Oxyfluorides	28.14(1)
Oxyiodides	28.14(1)
Oxyphencyclimine hydrochloride (1-methyl-1,4,5,6-tetrahydro-2-pyrimidylmethyl-alpha-cyclohexyl phenylglycollate hydrochloride)	29.35(1)
Oxyphenonium bromide (diethyl-(2-hydroxy-ethyl)methylammonium bromide alpha-phenyl-alpha-cyclohexylglycolate)	29.24(1)
Palladium diammines	28.49(1)
Palladium hydride	28.49(1)
Palladonitrites	28.49(1)
Pallado-oxalates	28.49(1)
Palladous chloride (palladium dichloride)	28.49(1)
Palladous oxide	28.49(1)
Palladous sulphate	28.49(1)
Pantothenolactone	29.35(1)
Papaveretum	29.42(1)
Papaverine (6-7,dimethoxy-1-veratryl-isoquinoline)	29.42(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Papaverine hydrochloride	29.42(1)
Paraformaldehyde (paraform; poly- formaldehyde; polyoxymethylene)	29.11(1)
Paramethadione (3,5-dimethyl-5-ethyl- oxazolidine-2,4-dione)	29.35(1)
Parathion (0,0-diethyl-para-nitro- phenylthiophosphate)	29.21 29.39(1)
Parathyroid hormone	
Pectinose (see arabinose)	
Penicillin, crude	29.44(1)
Pentachlorodiphenyl ketone	29.13(1)
Pentachlorodiphenyl oxide	29.08(1)
Pentachlorodiphenyltrichlorobenzene	29.02(1)
Pentachloronitrobenzene (PCNB)	29.03(1)
Pentadecanes	29.01(1)
Pentaerythritol (PE; pentaerythrite)	+29.04(12)
Pentanetriol	29.04(1)
Pentasodium diethylenetriamine-N,N,N',N'',N'''- pentacetate	+29.23(10)
Pentobarbitone sodium (sodium 5-ethyl-5- (1-methylbutyl) barbiturate)	29.25(1)
Perphenazine (2-chloro-10-(3-(4-(beta- hydroxyethyl) piperaziny) propyl)- phenothiazine)	29.35(1)
Perrhenates	28.47(1)
Persulphuric anhydride	28.13(1)
Pethidine	29.35(1)
Pethidine hydrochloride (see meperidine hydrochloride)	
Phenacetin (p-acetaminophenetol; aceto- phenetidol; acetparaphenetidide; acetparaphentidine; p-acetylphenetidol; p-ethoxyacetanilide)	29.25(1)
Phenanthrene (phenanthrin)	29.01(1)
Phenanthrenequinone (phenanthraquinone)	29.13(1)
Phenazine (azophenylene)	29.35(1)
Phenazone (see antipyrine)	
Phenetidines (aminophenetoles)	29.23(1)
Phenetole (phenyl ethyl ether)	29.08(1)
Pheniramine (prophenpyridamine; 1-phenyl-1- (2-pyridyl)-3-dimethylaminopropane)	29.35(1)
Phenobarbital sodium (phenobarbital, soluble; phenobarbitone, soluble)	29.25(1)
Phenobarbitone sodium (see phenobarbital sodium)	
Phenolphthalein	29.35(1)
Phenolsulphonephthalein (phenol red)	29.37
Phenoxyethanol	29.08(1)
Phenothiazine (thiodiphenylamine)	29.35(1)
Phenoxazine	29.35(1)
Phenoxybenzamine hydrochloride (N-(2- chloroethyl)-N-(1-methyl-2-phenoxyethyl) benzylamine hydrochloride)	29.23(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Phentolamine hydrochloride (tolyl-hydroxyphenylaminomethylimidazoline hydrochloride)	29.35(1)
Phenylacetamide (see acetanilide)	
Phenylaminocadmium dilactate	29.23(1)
Phenylbutazone (butazolidine; 4-butyl-1,2-diphenyl-3,5-pyrazolidinedione)	29.35(1)
1-Phenyl-3-carbethoxy-5-pyrazolone	29.35(1)
Phenylcyanamide	29.27(1)
Phenyldiazonium chloride	29.28
Phenyldiazonium hydroxide	29.28
1-Phenyl-2,3-dimethyl-4-isopropyl-5-pyrazolone	29.35(1)
Phenyl dimethylureatrichloroacetate	29.25(1)
Phenylenediamine (diaminobenzene)	29.22(1)
Phenylephrine hydrochloride (1-1-meta-hydroxyphenyl-2-methylaminoethanol hydrochloride)	29.23(1)
2-Phenylethanol (benzyl carbinol; phenethyl alcohol; phenylethyl alcohol)	29.05(1)
b-Phenylethylamine	29.22(1)
Phenylglucosazone	29.29
Phenylglycine	29.23(1)
Phenylglyoxime	29.29
Phenyl hydantoin	29.25(1)
Phenylhydrazine (hydrazinobenzene)	29.29
Phenylhydroxylamine	29.29
Phenyl mercuric acetate	29.33
Phenyl mercuric chloride	29.33
Phenyl mercuric formamide	29.33
Phenyl mercuric nitrate	29.33
Phenyl mercuric oleate	29.33
Phenyl mercury triethanol ammonium lactate (tris(2-hydroxyethyl)(phenyl-mercuri) ammonium lactate)	29.33
1-Phenyl-3-methyl-5-pyrazolone (3-methyl-1-phenyl-5-pyrazolone)	29.35(1)
Phenyl-a-naphthylamine	29.22(1)
ortho-Phenylphenol (ortho-hydroxydiphenyl; ortho-xenol)	29.06(1)
para-Phenylphenol (para-hydroxydiphenyl; para-xenol)	29.06(1)
3-Phenylpropanol (cinnamic alcohol; cinnamyl alcohol; phenyallylic alcohol; 3-phenyl-2-propen-1-ol; styryl alcohol; styrylic alcohol)	29.05(1)
Phenylpropanolamine hydrochloride (alpha-(1-aminoethyl) benzyl alcohol hydrochloride; dl norephedrine hydrochloride)	29.23(1)
Phenyl salicylate (salicylic acid phenyl ester; salol)	29.16(1)
Phenylsemicarbazide (1-carbamyl-2-phenylhydrazine)	29.29

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)</u> (Cont'd)	
Phenyltoloxamine citrate	29.23(1)
Phenyl tolyl ether	29.08(1)
Phenyltrichlorosilane	29.34(1)
Phenytol (diphenylhydantoin sodium)	29.25(1)
Phloroglucinol (phloroglucine; 1,3,5-trihydroxybenzene)	29.06(1)
Pholcodine	29.42(1)
Phorones other than isophorone	29.13(1)
Phosphamidon (chloro-1-diethyl carbamoyl-1-propen-2-yl dimethyl phosphate)	29.25(1)
Phosphorus oxychloride (phosphoryl chloride)	+28.14(2)
Phosphosilicates	28.48(1)
Phosphostannates	28.48(1)
Phthalimide (1,3-isoindoledione)	29.26(1)
Phylloquinone (see Vitamin K ₁)	
Physostigmine (calabarine; eserine)	29.42(1)
Physostigmine hydrobromide	29.42(1)
Physostigmine hydrochloride	29.42(1)
Physostigmine salicylate	29.42(1)
Physostigmine sulphate	29.42(1)
Physostigmine sulphite	29.42(1)
Phytomenadione (see Vitamin K ₁)	
Pilocarpine	29.42(1)
Pilocarpine hydrochloride	29.42(1)
Pilocarpine nitrate	29.42(1)
Piperazine (diethylenediamine)	29.35(1)
Piperazine adipate	29.35(1)
Piperazine dihydrochloride	29.35(1)
Piperazine estrone sulphate	29.39(1)
Piperazine hexahydrate	29.35(1)
Piperidine (hexahydropyridine; penta-methyleneamine)	29.35(1)
Piperidinium pentamethylene dithiocarbamate	29.35(1)
2-Piperidinoethanol (N-2-hydroxyethyl-piperidine)	29.35(1)
Piperine (1-piperoylpiperidine)	29.42(1)
Piperocaine hydrochloride (3-(2-methyl-1-piperidyl) propyl benzoate hydrochloride)	29.35(1)
Piperonyl butoxide	29.10(1)
Plasticizer preparations	+38.19(1)
Platinic oxide	28.49(1)
Platinous oxide	28.49(1)
Platinum ammino compounds	28.49(1)
Platinum chloride (platinum tetrachloride; platinic chloride)	28.49(1)
Platinum phosphide	28.49(1)
Platinum silicide	28.49(1)
Plutonium carbides	+28.50
Plutonium dioxide	+28.50
Plutonium nitrate	+28.50
Plutonium nitride	+28.50
Plutonium tetrafluoride	+28.50
Polonium	+28.50
Polyestradiol phosphate	29.39(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Polyether type products of condensation, polycondensation and polyaddition	+39.01(a)9
Polyethylene glycol esters	+34.02
Polyethylene glycols, mixed, with very low molecular weight	+38.19(1)
Polyethylene oxide	29.09(1)
Polymyxin	29.44(1)
Polymyxin-B sulphate	29.44(1)
Potassium	28.05(1)
Potassium 40	+28.50
Potassium alum (aluminum potassium sulphate; potash alum), calcined	+37.08
Potassium aluminate	28.47(1)
Potassium amides	28.58(1)
Potassium antimonate	28.47(1)
Potassium arsenates	28.41(1)
Potassium aspartate	29.23(1)
Potassium aurocyanide	28.49(1)
Potassium benzoate	29.14(1)
Potassium bicarbonate	28.42(1)
Potassium bifluoride (potassium acid fluoride; Fremy's salt)	28.29(1)
Potassium borohydride	28.57(1)
Potassium bromate	28.33
Potassium bromide	28.33
Potassium chlorate	+28.32(2)
Potassium chlorochromate (Peligot's salt)	28.48(1)
Potassium chloropalladate	28.49(1)
Potassium chromate (potassium chromate neutral; potassium chromate yellow)	28.47(1)
Potassium cinnamate	29.14(1)
Potassium cobaltinitrite (cobalt potassium nitrite; Fischer's yellow)	28.48(1)
Potassium cryolite (potassium sodium fluoroaluminate)	28.29(1)
Potassium cyanate	28.44
Potassium cyanoplatinite	28.49(1)
Potassium dichloroisocyanurate	29.35(1)
Potassium dichromate (potassium bichromate; potassium chromate, red), not crude	28.47(1)
	+37.08
Potassium dimethyl dithiocarbamate	29.31(1)
Potassium dithionite	28.36(1)
Potassium ferrate	28.47(1)
Potassium fluoride	28.29(1)
Potassium fluorosilicate	28.29(1)
Potassium gluconate	29.16(1)
Potassium glycerophosphate (potassium glycerinophosphate)	29.19(1)
Potassium guaiacol sulphonate (orthocoll)	29.08(1)
Potassium hydride	28.57(1)
Potassium hydrogen di-iodate	28.34(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Potassium hydrogen permonosulphate	28.38(1)
Potassium hydrogen sulphite	28.37(1)
Potassium hydrogen tartrate	29.16(1)
Potassium hypochlorite	28.31(1)
Potassium hypobromite	28.33
Potassium hypophosphite (potassium hypophosphite, monobasic)	28.40(1)
Potassium iodate	28.34(1)
Potassium manganate	28.47(1)
Potassium metabisulphite (potassium pyrosulphite)	28.37(1)
Potassium metaphosphate (monopotassium metaphosphate)	28.40(1)
Potassium nitrite	28.39(1)
Potassium oleate	29.14(1)
Potassium osmate (potassium perosmate)	28.49(1)
Potassium oxalate	29.15(1)
Potassium perborate	28.46(1)
Potassium percarbonates	28.42(1)
Potassium perchlorate (potassium hyperchlorate)	28.32(1)
Potassium peroxide	28.17(2)
Potassium persulphate (anthion; potassium peroxydisulphate)	28.38(1)
	+37.08
Potassium phenylacetate	29.14(1)
Potassium phosphate, tribasic (potassium phosphate, neutral; potassium phosphate normal; potassium phosphate tertiary; tripotassium orthophosphate; tripotassium phosphate)	28.40(1)
Potassium polysulphide	28.35(1)
Potassium pyrophosphate (potassium pyro- phosphate, normal; potassium pyrophosphate, tetrabasic; tetrapotassium pyrophosphate)	28.40(1)
Potassium salicylate	29.16(1)
Potassium selenate	28.48(1)
Potassium silicate	28.45(1)
Potassium sodium tartrate (Rochelle salts; seignette salt; sodium potassium tartrate)	29.16(1)
Potassium sorbate (potassium-2,4- hexadienoate)	29.14(1)
Potassium stearate	29.14(1)
Potassium sulphaquinoxaline	29.36(1)
Potassium sulphides	28.35(1)
Potassium sulphite, neutral	28.37(1)
Potassium tartrate, neutral, A.R. grade	+29.16(25)
Potassium tellurate	28.48(1)
Potassium thiocarbonates	28.48(1)
Potassium thiocyanate (potassium rhodanide; potassium sulphocyanate; potassium sulphocyanide)	28.44
Potassium thioglycollate	29.31(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
Potassium tungstate (potassium ortho-tungstate; potassium wolframate; potassium wolframate normal)	28.47(1)
Potassium zirconium fluoride (potassium fluozirconate; potassium zirconifluoride; zirconium potassium fluoride)	28.29(1)
PP factor (see nicotinamide)	
Pramoxine hydrochloride	29.35(1)
Praseodymium	28.05(1)
Prednisolone (dehydrocortisol; 1,2-dehydrocortisone; delta-pregnadiene-11-beta, 17-alpha, 21-triol-3,20-dione)	29.39(1)
Prednisolone acetate	29.39(1)
Prednisolone-21-(disodium phosphate)	29.39(1)
Prednisolone phosphate	29.39(1)
Prednisolone sodium succinate	29.39(1)
Prednisolone-21-(m-sodium-sulphobenzoate)	29.39(1)
Prednisolone-11-beta,16-alpha-21-trihydroxy-1,4-pregnadiene-3, 20-dione	29.39(1)
Prednisone (1,2-dehydrocortisone; delta-pregnadiene-17-alpha, 21-diol-3,11-20-dione)	29.39(1)
5B-Pregnan-3a-ol-20-one (epipregnanolone)	+29.13(13)
5-beta-pregnane-3-alpha, 17-alpha, 20-alpha-triol	29.05(1)
11-Pregnen-3, 20-dione	+29.13(14)
Primidone (5-ethylidihydro-5-phenyl-4,6-(1H,5H) - pyrimidinedione)	29.35(1)
Procaine base (para-aminobenzoyldiethyl-aminoethanol base; 2-diethylaminoethyl-para-aminobenzoate)	29.23(1)
Procaine hydrochloride (para-aminobenzoyldiethylamino-ethanol hydrochloride; diethylaminoethyl para-aminobenzoate hydrochloride; ethocaine; kerothane; procaine)	29.23(1)
Products of the condensation of fatty alcohols, fatty acids, or alkylphenols with ethylene oxide, and similar non-ionic products	+34.02
Proflavine sulphate (3,6-diamino-acridinium hydrogen sulphate; proflavine)	29.35(1)
Progesterone (luteosterone; delta-pregnene-3,20-dione)	29.39(1)
Proguanil hydrochloride (chloroguanide hydrochloride; 1-(para-chlorophenyl)-5-isopropylbiguanide hydrochloride: "Paludrine")	29.26(1)
Promethazine	29.35(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Promethazine hydrochloride (n-(2'-dimethyl- amino-2'-methyl)-ethyl-phenothiazine hydrochloride; 10-(2-dimethylaminopropyl) phenothiazine hydrochloride)	29.35(1)
1,3-Propanesultone	29.37
5-Propenyl guaethol	29.08(1)
Propham (N-phenyl isopropyl-carbamate)	29.25(1)
Propionolactone	29.35(1)
Propiophenone (ethyl phenyl ketone; 1- phenylpropanone-1; propionyl benzene)	29.13(1)
Propylene glycol alginate	39.06(1)
Propylethylene (alpha-n-amylene)	29.01(1)
Propylhexedrine (1-cyclohexyl-2-methyl- aminopropane; N-dimethylcyclohexane- ethylamine)	29.22(1)
Propylhexedrine hydrochloride	29.22(1)
Propyl-p-hydroxybenzoate (propylparaben)	29.16(1)
Propyl nitrates	29.18(1)
Propyl nitrite	29.18(1)
n-Propyloleate	+29.14(55)
Propylthiouracil (6-propyl-3-thiouracil)	29.35(1)
Protocatechualdehyde	29.11(1)
Protoveratrine	29.42(1)
Provitamin A (carbitol; carotene; carotin; cryptoxanthin)	+29.38(3)
Provitamin D ₂ (ergosterin, non-irradiated; ergosterol, non-irradiated)	29.38(1)
Provitamin D ₃ , (7-dehydrocholesterol, non- irradiated)	+29.38(9)
Provitamin D ₄ (22,23-dihydroergosterol, non-irradiated)	29.38(1)
Provitamin D ₅ (7-dehydro-beta-sitosterol, non-irradiated)	29.38(1)
Pseudoephedrine (d-isoephedrine)	29.42(1)
Pseudoephedrine hydrochloride	29.23(1)
Pyrazinamide (pyrazinoic acid amide; pyrazine carboxamide)	29.35(1)
Pyrene	29.01(1)
Pyrethrin II	29.15(1)
Pyridine	29.35(1)
Pyridine-2,6-dialdehyde	29.35(1)
Pyridine hydroxypropylamide	29.35(1)
b-Pyridylcarbinol tartrate (3-pyridine- methanol tartrate)	29.35(1)
Pyrogallol (pyrogalllic acid; 1,2,3- trihydroxybenzene)	29.06(1)
	+37.08
Quassin	29.45(1)
Quaternary ammonium salts, not chemically defined	+34.02
Quercetin (flavin; meletin; quercetinic acid; tetrahydroxyflavanol)	29.35(1)
Quinazoline	29.35(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Quinidine (beta-quinine; chinidine; conchinine; pitayine)	29.42(1)
Quinine	29.42(1)
Quinizarin (1,4-dihydroxynitroquinone)	29.13(1)
Quinoline (chinoline; leucoline)	29.35(1)
Raffinose (gossypose; melitose; melitriose)	29.43(1)
Rare earth fluoride	28.52(1)
Rare earth oxide	28.52(1)
Refined glycerine, analytical grade	+15.11(2)
Reineckates	28.48(1)
Reserpine	29.42(1)
Reserpine hydrochloride	29.42(1)
Resorcinol (meta-dihydroxybenzene; 3-hydroxyphenol; resorcin)	29.06(1)
Rhamnose	29.43(1)
Rhenates	28.47(1)
Rhenium	R-36(1)
Rhodium hydroxide	28.49(1)
Rhodium nitrate	28.49(1)
Rhodium nitrites	28.49(1)
Rhodium oxide	28.49(1)
Rhodium sodium chloride	28.49(1)
Rhodium sulphate	28.49(1)
Rhodium trichloride (rhodium chloride)	28.49(1)
Riboflavine (see Vitamin B ₂)	
Riboflavine-5'-orthophosphate	29.38(1)
Riboflavine-5'-orthophosphate diethane- amine	29.38(1)
Riboflavine-5'-phosphate sodium	29.38(1)
Riboflavine-5'-sodium hydrogen phosphate	29.38(1)
Ribose	29.43(1)
Rosacetol (see trichloromethylphenyl carbiny l acetate)	
Rotenone (tubatoxin)	29.35(1)
Rubber accelerators, prepared	+38.15
Rubber antioxidant preparations	+38.19(1)
Rubidium	28.05(1)
Rubidium 87	+28.50
Ruthenium dioxide	28.49(1)
Ruthenium nitrites	28.49(1)
Ruthenium tetrachloride	28.49(1)
Ruthenium tetroxide	28.49(1)
Ruthenium trichloride	28.49(1)
Saccharin (benzoysulfonic imide; ortho- benzosulfimide; gluside)	29.26(1)
Saccharin calcium (calcium ortho- benzosulfimide)	29.26(1)
Salicin (salicyl alcohol glucoside)	29.41(1)
Salicylamide (ortho-hydroxybenzamide)	29.25(1)
Saligenin(ortho-hydroxybenzyl alcohol; salicyl alcohol; saligenol)	29.06(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Salts of fatty amines	+34.02
Salts of resin acids	+38.08
Samarium	28.05(1)
Samarium oxide	28.52(1)
Santonin	29.35(1)
Saponins	29.41(1)
Scandium	28.05(1)
Scopolamine methyl bromide (see hyoscyne methobromide)	
Secobarbital sodium (sodium 5-allyl-5 (1-methylbutyl) barbiturate)	29.25(1)
Selenious anhydride (selenious acid anhydride; selenium dioxide)	28.13(1)
Selenium oxychloride	28.14(1)
Selenocarbonates	28.48(1)
Selenocyanates	28.48(1)
Selenosulphates	28.48(1)
Selenosulphides	28.48(1)
Semicarbazide (carbamyldiazine)	29.29
Serum gonadotrophin	29.39(1)
Silicon carbide	28.56(1)
Silicon dioxide (silica)	28.13(1)
Silicon hydride	28.57(1)
Silicon nitride	28.57(1)
Silicon or "silicon metal" of the grade for use in the manufacture of safety fuses	+28.04(1)
Silicon oxysulphide	28.58(1)
Silicon sulphide	28.15(4)
Silicon tetrachloride (silicon chloride)	28.14(1)
Silver acetate	28.49(1)
Silver albuminates	28.49(1)
Silver benzoate	28.49(1)
Silver butyrate	28.49(1)
Silver cinnamate	28.49(1)
Silver citrate	28.49(1)
Silver dichromate (silver bichromate)	28.49(1)
Silver fluoride	28.49(1)
Silver lactate	28.49(1)
Silver nitride	28.49(1)
Silver nucleates	28.49(1)
Silver nucleinates	28.49(1)
Silver oxalate	28.49(1)
Silver oxide (argentous oxide)	28.49(1)
Silver peptonates	28.49(1)
Silver permanganate	28.49(1)
Silver peroxide	28.49(1)
Silver phosphate	28.49(1)
Silver picrate	28.49(1)
Silver proteinate	28.49(1)
Silver salicylate	28.49(1)
Silver sulphate	28.49(1)
Silver sulphide	28.49(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Silver tannates	28.49(1)
Silver tartrate	28.49(1)
Silver thiocyanate	28.49(1)
Silver valerate	28.49(1)
Silver vitellinates	28.49(1)
Skatole (beta-methylindole; 3-methylindole)	29.35(1)
Sodium	+28.05(3)
Sodium adreno chrome semicarbazone salicylate complex	29.39(1)
Sodium alkyl naphthalene sulphonate	+34.02
Sodium aluminate, dry	28.47(1)
Sodium-p-aminosalicylate (PAS sodium)	29.23(1)
Sodium antimonate	28.47(1)
Sodium meta-antimonate (antimony sodate; leuconine)	28.47(1)
Sodium arsanilate (sodium aniline- arsonate; sodium aminophenyl arsonate)	29.32
Sodium arsenite (sodium meta-arsenite)	+28.41(3)
Sodium aurothiocyanate	28.49(1)
Sodium aurothiosulphate (aurous sodium thiosulphate; gold-sodium thiosulphate)	28.49(1)
Sodium bifluoride (sodium acid fluoride)	28.29(1)
Sodium borohydride	28.57(1)
Sodium bromate	28.33
Sodium bromide	28.33
Sodium sec-butyl xanthate	+29.31(9)
Sodium n-butyrate	29.14(1)
Sodium carbonate, monohydrate	28.42(1)
Sodium carbonates, natural	+R-12 210b
Sodium chlorite	28.31(1)
Sodium chromate	28.47(1)
Sodium chromate, tetrahydrate (chromate of soda)	28.47(1)
Sodium cinnamate	29.14(1)
Sodium citrate, dibasic	29.16(1)
Sodium cyanamide	28.58(1)
Sodium cyanate	28.44
Sodium cyclamate (cyclamate sodium; sodium cyclohexylsulphamate)	29.30(1)
Sodium diamyl dithiocarbamate	29.31(1)
Sodium di-butyl dithiocarbamate	29.31(1)
Sodium-O,O-dibutyl dithiophosphate	29.21
Sodium-2,4-dichlorophenoxyethyl sulphate (SES; sesone)	29.17(1)
Sodium-2,2-dichloropropionate (dalapon)	29.14(1)
Sodium-N,N-di(2-hydroxyethyl) glycine	+29.23(11)
Sodium dimethyl pentamethylene dithio- carbamate	29.35(1)
Sodium dithionate (sodium hyposulphate)	28.48(1)
Sodium-O,O-ditolyl dithiophosphate	29.21
Sodium estrone sulphate	+29.39(4)
Sodium ethoxide (caustic alcohol; sodium ethylate)	29.45(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Sodium ethylxanthate	29.31(1)
Sodium fluoride	28.29(1)
Sodium fluorosilicate (sodium fluosilicate; sodium silicofluoride)	28.29(1)
Sodium formate	29.14(1)
Sodium gluconate	29.16(1)
Sodium glycerophosphate (disodium-a- glycerophosphate; sodium glycerino- phosphate)	29.19(1)
Sodium hexametaphosphate (sodium metaphosphate; glassy sodium meta- phosphate), insoluble	+28.40(3)
Sodium hydride	28.57(1)
Sodium hydrogen glutamate	29.23(1)
Sodium hydrogen tartrate	29.16(1)
Sodium hydrosulphide (sodium bisulphide; sodium hydrogen sulphide; sodium sulphhydrate)	28.35(1)
Sodium p-hydroxybenzoate	29.16(1)
Sodium hypophosphite	28.40(1)
Sodium iodate	28.34(1)
Sodium lactate	29.16(1)
Sodium N-lauroyl sarcosinate	29.25(1)
Sodium lauryl sarcosinate	+34.02
Sodium lauryl sulphoacetate	+34.02
Sodium lauryl sulphate, pharmacopoeia grades	+29.17(8)
Sodium manganate	28.47(1)
Sodium metaborate	28.46(1)
Sodium metaphosphates, other than sodium hexametaphosphate	28.40(1)
Sodium metavanadate	28.47(1)
Sodium N-methyl dithiocarbamate	29.31(1)
Sodium methylsilanolate	29.34(1)
Sodium methyl taurine	29.22(1)
Sodium molybdate	28.47(1)
Sodium nicotinate	29.38(1)
Sodium oleate	29.14(1)
Sodium orthovanadate	28.47(1)
Sodium oxalate	29.15(1)
Sodium L-pantothenate	29.25(1)
Sodium pentaborate	28.46(1)
Sodium pentamethylene dithiocarbamate	29.35(1)
Sodium perborate (peroxydol; sodium borate perhydrate; sodium metaborate peroxyhydrate; sodium perborate tetrahydrate)	28.46(1)
Sodium percarbonates	28.42(1)
Sodium perchlorate	28.32(1)
Sodium periodates	28.34(1)
Sodium permanganate	28.47(1)
Sodium persulphate (sodium peroxy- disulphate)	28.38(1)
Sodium phenolsulphonate (sodium sulphocarbolate)	29.07(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)</u> (Cont'd)	
Sodium ortho-phenylphenate (sodium ortho-phenylphenolate)	29.06(1)
Sodium phosphate, dibasic (disodium hydrogen orthophosphate; disodium orthophosphate; disodium phosphate; hydrodisodium phosphate; dibasic phosphate of soda), pharmacopoeial grade	+28.40(4)
Sodium phosphate, monobasic (sodium acid phosphate; sodium biphosphate; sodium dihydrogen orthophosphate; sodium orthophosphate, monobasic), pharmacopoeial grade	+28.40(5)
Sodium phosphate, tribasic (sodium phosphate tertiary; trisodium orthophosphate; trisodium phosphate; trisodium phosphate crystals) other than commercial grade	28.40(1)
Sodium phosphoaluminate	28.48(1)
Sodium plumbate	28.47(1)
Sodium plumbite	28.47(1)
Sodium polysulphide	28.35(1)
Sodium potassium tartrate (see potassium sodium tartrate)	
Sodium pyroantimonate	28.47(1)
Sodium pyrophosphate, normal (sodium pyrophosphate, tetrabasic; tetrasodium pyrophosphate), C.P., A.R. and pharmacopoeial grades	28.40(1)
Sodium saccharinate (saccharin sodium salt; sodium benzosulfimide; soluble glucide; soluble saccharin)	29.26(1)
Sodium salicylate	29.16(1)
Sodium secobarbital (see secobarbital sodium)	
Sodium selenates	28.48(1)
Sodium selenites	28.48(1)
Sodium sesquicarbonate	28.42(1)
Sodium sulphamethazine	+29.36(3)
Sodium sulphathiazole (sodium 2-sulphanilamidothiazole; sulphathiazole, soluble)	29.36(1)
Sodium tartrate (sal tartar)	29.16(1)
Sodium tellurates	28.48(1)
Sodium tetraborate (borax; sodium pyroborate; sodium borate), other than crude, in packages of less than 25 pounds	+28.46(2)
Sodium thiobenzoate	29.31(1)
Sodium thiocyanate (sodium rhodanate; sodium rhodanide; sodium sulphocyanate; sodium sulphocyanide)	28.44
Sodium thioglycollate (sodium mercaptoacetate)	29.31(1)
Sodium thiosulphate (antichlor; hypo; sodium subsulphite)	+37.08

Existing Item208t (20839-1)(Cont'd)Recommended Item

Sodium thiosulphate (antichlor; sodium hypo- sulphite; sodium subsulphite) anhydrous	28.37(1)
Sodium thyroxine (sodium levothyroxine)	29.39(1)
Sodium titanate (sodium trititanate)	28.47(1)
Sodium titanium fluoride	28.29(1)
Sodium-1,3,5,3'-tri-iodothyronine	29.39(1)
Sodium tungstate (sodium wolframate)	28.47(1)
Sodium zincate	28.47(1)
Sodium zirconium sulphate	28.48(1)
Sorbitol	+29.04(15)
Sorbitol esters of Rec. Item 29.14	29.14(1)
Sorbitol fatty acid esters	+38.19(1)
Sorbose (sorbenose)	29.43(1)
Sparteine (lupinidine)	29.42(1)
Sparteine sulphate	29.42(1)
Stannous fluoride (tin difluoride; tin fluoride)	28.29(1)
Stannous sulphate	28.38(1)
Stearyl alcohol	+15.10(3)
Stearyl alcohol (1-octadecanol; octadecyl alcohol)	29.04(1)
Stearyl diethanolamide	+29.25(13)
Stearyl hydrogen sulphate, the ammonium, lithium, potassium and sodium salts of	+29.17(12)
Stearyl methacrylate	29.14(1)
Stearyl thioglycollate	29.31(1)
Stilboestrol (stilbestrol; diethyl- stilbestrol)	29.06(1)
Stilboestrol dipropionate (diethyl- stilbestrol dipropionate)	29.14(1)
Strontium carbonate, precipitated	28.42(1)
Streptomycin and its salts	29.44(1)
Streptomycin sulphate (see streptomycin)	
Streptothricin	29.44(1)
Strontium	28.05(1)
Strontium bromide	28.33
Strontium chlorate	28.32(1)
Strontium chromate	28.47(1)
Strontium hydride	28.57(1)
Strontium hydroxide (strontium hydrate)	28.18(1)
Strontium iodide	28.34(1)
Strontium lactate	29.16(1)
Strontium nitrate	+28.39(7)
Strontium plumbate	28.47(1)
Strontium sulphate	28.38(1)
Strontium sulphide (strontium mono- sulphide)	28.35(1)
Strophanthin	29.41(1)
Strychnine	29.42(1)
Strychnine arsenate	29.42(1)
Strychnine hydrochloride	29.42(1)
Strychnine nitrate	29.42(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Strychnine phosphate	29.42(1)
Strychnine sulphate	29.42(1)
Styrene oxide	29.09(1)
Succinic anhydride (butanedioic anhydride; 2,5-diketotetra hydro- furane; succinyl oxide)	29.15(1)
Succinimide (2,5-diketopyrrolidine)	29.26(1)
Succinylcholine chloride (choline succinate dichloride dihydrate; suxamethonium chloride)	29.24(1)
Succinylsulphanilamide sodium	29.36(1)
Succinylsulphathiazole	29.36(1)
Sucrose acetate isobutyrate	29.43(1)
Sucrose mono-acetate	29.43(1)
Sucrose octa-acetate	29.43(1)
Sucrose octa-benzoate	29.43(1)
Sulphacetamide (N'-acetylsulphanilamide; para-aminobenzenesulphonacetamide)	29.36(1)
Sulphacetamide sodium (N'-acetylsulphanilamide sodium)	29.36(1)
Sulphadimethoxine (N'-(2,6-dimethoxy-4- pyrimidinyl) sulphanilamide)	29.36(1)
Sulphaethylthiadiazole	29.36(1)
Sulphafurazole (3,4-dimethyl-5-sulphonilamide isoxazole)	29.36(1)
Sulphaguanidine (sulphanilylguanidine)	29.36(1)
Sulphamerazine (para-aminobenzenesulphonamido- 4-methylpyrimidine)	29.36(1)
Sulphamethazine (N-(4,6-dimethyl-2- pyrimidil) sulphanilamide)	+29.36(5)
Sulphamethizole (N'-(5-methyl-1,3,4- thiadiazol-2-yl) sulphanilamide)	29.36(1)
Sulphamethylthiadiazole	29.36(1)
para-Sulphamylbenzylamine	29.36(1)
Sulphanilamide (para-aminobenzene- sulphonamide)	29.36(1)
Sulphapyridine (para-aminobenzene- sulphonamidopyridine)	29.36(1)
Sulphaquinoxaline	29.36(1)
Sulpharsphenamine (3,3'-disodium-4,4'- diaminodihydroxyarsenobenzene-N- dimethylene sulphonate)	29.32
Sulphasomidine	29.36(1)
Sulphathiazole (para-aminobenzene- sulphonamidothiazole)	29.36(1)
Sulphathiazole sodium (see sodium sulpha- thiazole)	
Sulphathiourea (para-aminobenzenesulphonyl- thiourea)	29.36(1)
Sulphonaphthenic acid and its salts	+38.19(1)
Sulphonated derivatives of substituted benziminazoles	+34.02
Sulphonation products of fatty alcohols, fatty esters, fatty acids and fatty amides	+34.02

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Sulpho-oleates	+34.02
Sulpho-resinates	+34.02
Sulphoricinoleates	+34.02
Sulphur chloride (sulphur monochloride; sulphur subchloride)	28.14(1)
Sulphur dichloride (sulphur bichloride)	28.14(1)
Sulphur, precipitated	+28.02
Sulphur trioxide (sulphuric anhydride)	+28.13(8)
Sulphuryl chloride (chlorosulphuric acid; sulphonyl chloride; sulphuric chloride; sulphuric oxychloride)	28.14(1)
Suxamethonium bromide	29.24(1)
Tantalates	28.47(1)
Tantalum	R-36(1)
Tantalum boride	28.57(1)
Tantalum carbide	28.56(1)
Tantalum nitride	28.57(1)
Telluric anhydride	28.13(1)
Tellurium sulphide	+28.15(1)
Tellurocarbonates	28.48(1)
Tellurocyanates	28.48(1)
Tellurous acid anhydride (tellurium dioxide)	28.13(1)
Terbium	28.05(1)
Terbium chloride	28.52(1)
Terbium fluoride	28.52(1)
Terbium nitrate	28.52(1)
Terbium oxide (terbia)	28.52(1)
Terbium sulphate	28.52(1)
p-Terphenyl (1,4-diphenylbenzene) other than scintillation grade	+29.01(20)
Terphenyls, other than p-terphenyl	29.01(1)
Terpin hydrate (dipentene glycol; cis-1,8-terpin hydrate)	29.05(1)
Testosterone	29.39(1)
Testosterone acetate	29.39(1)
Testosterone benzoate	29.39(1)
Testosterone beta-cyclopentylpropionate	29.39(1)
Testosterone enanthate	29.39(1)
Testosterone enanthate benzilic acid hydrazone	+29.39(5)
Testosterone phenylacetate	29.39(1)
Testosterone propionate	29.39(1)
Tetra-amminonickel nitrate	28.48(1)
Tetrabenazine	29.35(1)
Tetrabenzyl thiuram disulphide	29.31(1)
Tetrabutyl thiuram disulphide	29.31(1)
Tetrachloro-para-benzoquinone (see chloranil)	
Tetrachlorodiphenylsulphone ("Tedion")	29.31(1)
Tetrachlorophthalic anhydride	29.15(1)
Tetracene (2,3-benzanthracene, chrysogen, naphthacene, rubene)	29.01(1)
Tetracycline	+29.44(4)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Tetracycline hydrochloride	+29.44(4)
Tetraethyldiaminobenzhydrol	29.23(1)
Tetraethyldiaminobenzophenone	29.23(1)
Tetraethyl lead (TEL)	29.34(1)
Tetraethyl orthocarbonate	29.20
Tetraethyl pyrophosphate (TEPP)	29.19(1)
Tetraethyl silicate (ethyl silicate; tetraethyl orthosilicate)	29.21
Tetrahydrofuran	29.35(1)
Tetrahydrofurfuryl alcohol (tetrahydrofuryl carbinol)	29.35(1)
Tetrahydrofurfurylamine	29.35(1)
Tetrahydrofurfuryl nicotinate (thurfyl nicotinate)	29.35(1)
Tetrahydromethylquinoline	29.35(1)
Tetrahydronaphthalene	29.01(1)
1,2,5,6-Tetrahydropyridine	29.35(1)
1,2,3,4-Tetrahydroquinoline	29.35(1)
Tetrahydrothiophene	29.35(1)
Tetrahydrozoline hydrochloride (2-(1,2,3,4- tetrahydro-1-naphthyl)-2-imidazoline hydrochloride)	29.35(1)
Tetrakis(hydroxymethyl)phosphonium chloride	29.34(1)
Tetramethylammonium formate	29.24(1)
Tetramethylammonium hydroxide	29.24(1)
Tetramethylammonium iodide	29.24(1)
Tetramethyldiaminobenzhydrol (tetramethyl- diaminophenyl-carbinol; hydrol; Mickler's hydrol)	29.23(1)
Tetramethyldiaminobenzophenone	29.23(1)
Tetramethyl lead (TML)	29.34(1)
Tetramethyltetraphenylcyclotetrasiloxane	29.34(1)
Tetrastearyl titanate	29.14(1)
Thalidomide	29.26(1)
Thallium sulphate (thallous sulphate)	28.38(1)
Thebaine (para-morphine)	29.42(1)
Theobromine (3,7-dimethylxanthine), other than crude	29.42(1)
Theophylline (1,3-dimethylxanthine)	29.42(1)
Thiamine (see Vitamin B ₁)	
Thiamine hydrochloride	29.38(1)
Thiamine mononitrate (aneurine mononitrate)	29.38(1)
Thiamine orthophosphate	29.38(1)
Thiamine orthophosphate dihydrochloride	29.38(1)
Thiamine orthophosphate monohydrochloride	29.38(1)
Thiamine salicylate hydrobromide (aneurine salicylate hydrobromide)	29.38(1)
Thiamine salicylate hydrochloride (aneurine salicylate hydrochloride)	29.38(1)
Thiamine-1,5-salt (aneurine naphthalene-1, 5-disulphonate; aneurine-1,5-salt)	29.38(1)
Thioaniline (4,4'-diaminodiphenyl sulphide)	29.31(1)
Thio-antimonates	28.48(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Thio-arsenates	28.48(1)
Thiocarbanilide (N,N'diphenylthiourea; sulphocarbanilide)	29.31(1)
Thiocarbonates	28.48(1)
Thiodan	29.35(1)
Thiodiglycol (beta-bis-hydroxyethyl sulphide; di-(2-hydroxyethyl) sulphide; thiodiethyleneglycol)	29.31(1)
Thiomersal	29.33
Thiomolybdates	28.48(1)
Thionaphthen	29.35(1)
Thionyl chloride (sulphur oxychloride; sulphurous oxychloride)	28.14(1)
Thiopalladates	28.49(1)
Thiophen (thiofuran)	29.35(1)
Thiophenol	29.31(1)
Thiophosgene (carbon dichlorosulphide; thiocarbonyl chloride)	28.58(1)
Thioridazine hydrochloride (2-methylthio- 10-(2-(1-methyl-2-piperidyl)-ethyl) phenothiazine hydrochloride)	29.35(1)
Thiostannates	28.48(1)
Thiostrepton	29.44(1)
Thiotellurates	28.48(1)
Thiouracil (2-mercapto-4-hydroxypyrimidine; 2-thio-4-oxypyrimidine)	29.35(1)
Thiourea (thiocarbamide)	29.31(1)
1,4-Thioxane	29.35(1)
Thiuram disulphide	29.31(1)
Thiuram monosulphide	29.31(1)
Thonzylamine hydrochloride (2-((2-dimethyl- aminoethyl) (para-methoxy-benzyl) amino) pyrimidine hydrochloride)	29.35(1)
Thorium	R-36(1)
Thorium acetate	28.52(1)
Thorium acetylacetonate	28.52(1)
Thorium benzoate	28.52(1)
Thorium carbide	28.52(1)
Thorium chloride (thorium tetrachloride)	28.52(1)
Thorium fluoride	28.52(1)
Thorium formate	28.52(1)
Thorium hydroxide	28.52(1)
Thorium nitrate	28.52(1)
Thorium nitride	28.52(1)
Thorium oxalate	28.52(1)
Thorium oxychloride	28.52(1)
Thorium sulphate (thorium sulphate normal)	28.52(1)
Thorium sulphate, acid	28.52(1)
Thorium tartrate	28.52(1)
Thrombin	29.40(1)
Thrombokinas	29.40(1)
Thulium	28.05(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)</u> (Cont'd)	
Thymol (3-hydroxy-para-cymene; isopropyl- meta-cresol; 5-methyl-2-isopropylphenol; thyme camphor; thymic acid)	29.06(1)
Thymolphthalein	29.35(1)
Thymolsulphonaphthalein (thymol blue)	29.37
Thyrotrophin (thyreostimulin; thyrotropic hormone; T.S.H.)	29.39(1)
Thyroxine (3,5,3,5-tetraiodothyronine)	29.39(1)
L and DL-Thyroxine sodium	29.39(1)
Tin hydride	28.57(1)
Tin oxychloride	28.30(1)
Tin sulphides, artificial	28.35(1)
Titanium boride (titanium diboride)	28.57(1)
Titanium carbide	28.56(1)
Titanium carbonitride	28.56(1)
Titanium hydride	28.57(1)
Titanium nitride	28.57(1)
Titanium, n.o.p.	R-36(1)
Titanium sulphate (basic titanium sulphate; titanic sulphate; titanyl sulphate)	28.38(1)
Titanium tetrachloride (titanium chloride)	28.30(1)
Titanium tetraiodide	28.34(1)
Tocopherol (see Vitamin E)	
dl-a-Tocopherol acetate (dl-a-tocopheryl acetate; Vitamin E acetate)	29.38(1)
Tocopheryl diaminoacetate	29.38(1)
Tocopheryl hydrogen succinate	29.38(1)
Tolazoline hydrochloride (benzazoline hydrochloride; 2-benzyl-2-imidazoline hypochloride)	29.35(1)
Tolbutamide (1-butyl-3-para-tolyl- sulphonylurea)	29.36(1)
Toluene (methylbenzene; methylbenzol; phenylmethane; toluol)	+29.01(21)
Toluene-di-isocyanates (toluene-2,4- di-isocyanate; 2,4-tolylene di-isocyanate; meta tolylene di-isocyanate; toluene 2, 6-di-isocyanate and mixtures of these isomers), of a kind not made in Canada	+29.30(2)
Tolueneparasulphonyl chloride	29.03(1)
ortho-Toluenesulphonamide	29.36(1)
Toluidine (aminotoluene)	29.22(1)
para-Tolyl acetate	29.14(1)
ortho-Tolyldiguanide	29.26(1)
Tolylenediamines	29.22(1)
p-Tolyl methyl ether	29.08(1)
Tolyhydrazine	29.29
Tranylcypromine sulphate	29.22(1)
Trehalose	29.43(1)
Triacontanes	29.01(1)
Triamcinolone acetonide (9-alpha-fluoro- 16-alpha,17-alpha-isopropylidene- dioxyprednisolone)	29.39(1)
Tri-para-anisylchloroethylene (chlorotrianisene)	29.39(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
Tribenzylamine	29.22(1)
3,5,4'-Tribromosalicylanilide (see halogenated salicylanilides)	
Tributoxyethyl phosphate (tributyl oxyethyl phosphate)	29.19(1)
Tributylcitrate	29.16(1)
Tributyl phosphate	29.19(1)
Tricalcium diorthophosphate	28.40(1)
Trichloroallyldiisopropylthiocarbamate	29.31(1)
3,4,4'-trichlorocarbanilide (see halogenated carbanilides)	
Trichloroethylene	+29.02(15)
Trichlorofon (0,0-dimethyl-2,2,2,-trichloro- 1-hydroxyethylphosphonate)	29.34(1)
Trichloromethylphenyl carbonyl acetate (rosacetol)	29.14(1)
Trichloromethylthiophthalimide	29.31(1)
Trichloronitromethane (chloropicrin, chlorpicrin, nitrochloromethane, nitrochloroform)	29.03(1)
2,4,5-Trichlorophenoxyacetic acid amine salts	+29.22(17)
2,4,5-Trichlorophenoxypropionic acid triethanolamine salt	29.23(1)
Tricholine chloride	29.24(1)
Tricholine citrate (tris(2-hydroxyethyl) trimethylammonium citrate)	29.24(1)
Tricresyl phosphate (TCP; tritoyl phosphate)	29.19(1)
Tri-o-cresyl phosphate (see tricresyl phosphate)	
Tricyanotrimethylamine	29.27(1)
Tricylamol chloride	29.35(1)
Tridecanol (tridecyl alcohol)	29.04(1)
Tridecyl phosphite	29.21
Tridecyl sulphate and the ammonium, lithium, potassium and sodium salts of tridecyl hydrogen sulphate	+29.17(13)
Triethanolamine phosphate	29.23(1)
Triethanolamine-0,0', 0"-trinitrate	29.23(1)
Triethylamine	29.22(1)
Triethylamine phosphate	29.22(1)
Triethyl citrate	29.16(1)
Triethylene diamine (1,4-diaza-2,2,2- bicyclo octane)	29.35(1)
Triethyl phosphate (TEP)	29.19(1)
Triethylsilanol	29.34(1)
Trifluoperazine dihydrochloride (1-cyclo- hexyl-1-phenyl-3-pyrrolidino-1 propanol methylchloride)	29.35(1)
m-Trifluoromethylaniline	29.22(1)
2-Trifluoromethyl phenothiazine	29.35(1)
Trifluoropiperazine dihydrochloride (10-(3-(1-methyl-4-piperazine) propyl)- 2-trifluoromethylphenothiazine)	29.35(1)
Triguaiacyl phosphate	29.19(1)
1,2,4-Trihydroxybenzene (hydroxyhydroquinone)	29.06(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Trimetaphan-4-camphorsulphonates (d-3,4-(1',3'-dibenzyl-2'-ketoimidazolido) trimethylenethiophanium d-camphorsulphonates)	29.35(1)
Trimethadione (3,5,-trimethyl-2,4-oxazolidinedione)	29.35(1)
Trimethidinium methosulphate	29.35(1)
Trimethobenzamide hydrochloride (see 4-(2-dimethyl-aminoethoxy)-N-(3,4,5-trimethoxybenzoyl) benzylamine hydrochloride)	
Trimethylamine (TMA)	29.22(1)
Trimethylchlorosilane	29.34(1)
Trimethylcyclohexanol	29.05(1)
3,3,5-Trimethylcyclohexyl mandelate (see cyclandelate)	
Trimethylene chlorobromide (1-bromo-3-chloropropane)	29.02(1)
Trimethylolethane (methyltrimethylol methane; pentaglycerine)	29.04(1)
Trinitromethane (nitroform)	29.03(1)
Trinitroxyleneols	29.07(1)
Trioxan (metaformaldehyde; trioxane; trioxin; trioxymethylene)	29.11(1)
Tripelennamine citrate (N-benzyl-N',N'-dimethyl-N-2-pyridylethylenediamine citrate)	29.35(1)
Tripelennamine hydrochloride (2-(benzyl (2-dimethylaminoethyl) amino) pyridine hydrochloride)	29.35(1)
Triphenylmethane	29.01(1)
Triphenylmethanol (triphenylcarbinol)	29.05(1)
Triphenyl phosphate (TPP)	29.19(1)
Triphenyl phosphite	29.21
Triphenylsilanol	29.34(1)
Triprolidine hydrochloride (trans-1-(4-methylphenyl)-1 (2-pyridyl)-3-pyrrolidino-prop-1-ene hydrochloride)	29.35(1)
Tripropylene glycol	29.08(1)
Tripropylene glycol methyl ether	29.08(1)
Trisodium diethylenetriaminepentacetate	29.23(1)
Trisodium hydroxyethylethylene diamine triacetate	+29.23(13)
Tritolyl phosphate (see tricresyl phosphate)	
Triuranium octoxide	+28.50 28.52(1)
Trixylenyl phosphate (tridimethylphenyl phosphate; trixylyl phosphate)	29.19(1)
Trixylyl phosphate (see trixylenyl phosphate)	

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Troxidone	29.35(1)
Tubocurarine chloride	29.42(1)
Tungsten boride	28.57(1)
Tungsten carbides	28.56(1)
Tungstic oxide (tungstic acid anhydride; tungstic anhydride; tungsten trioxide; wolframic acid anhydrous)	28.28(1)
Tungstoborates (borotungstates)	28.48(1)
Tungstophosphates (phosphotungstates)	28.48(1)
Tyrocidine	29.44(1)
Tyrothricin	29.44(1)
Unmounted cut elements of piezo- electric material	+38.19(1)
Uranates	+28.50 28.52(1)
Uranium dicarbide (uranium carbide)	+28.50 28.52(1)
Uranium dioxide (uranium oxide; uranic oxide)	+28.50 28.52(1)
Uranium hexafluoride	+28.50 28.52(1)
Uranium monocarbide (uranium carbide)	+28.50 28.52(1)
Uranium peroxide (uranium tetroxide; uranium oxide)	+28.50 28.52(1)
Uranium tetrafluoride (green salt)	+28.50 28.52(1)
Uranium trioxide (uranium oxide)	+28.50 28.52(1)
Uranous oxide	+28.50 28.52(1)
Uranyl nitrate	+28.50 28.52(1)
Uranyl sulphate	+28.50 28.52(1)
Urea peroxide (carbamide peroxide; urea hydrogen peroxide; solid hydrogen peroxide)	28.54
Urease	29.40(1)
Urethane (ethyl carbamate; ethyl urethane; urethan)	29.25(1)
Valethamate bromide	29.23(1)
Vanadium	R-36(1)
Vanadium boride	28.57(1)
Vanadium carbide	28.56(1)
Vanadium hydroxide (dry)	28.28(1)
Vanadium nitride	28.57(1)
Vanillin sodium bisulphite	29.08(1)
Vasopressin tannate	29.39(1)
Veratraldehyde	29.11(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Veratrine (veratria)	29.42(1)
Vinylacetylene	29.01(1)
Vinylidene chloride	29.02(1)
Vinylpyridine	29.35(1)
1-Vinyl-2-pyrrolidone	29.35(1)
Vinyl toluene	29.01(1)
Vinyltrichlorosilane	29.34(1)
Vinyltriethoxysilane	29.34(1)
Vinyltri(2-methoxyethoxy) silane	29.34(1)
Vinyltrimethoxysilane	29.34(1)
Viomycin	29.44(1)
Vitamin A, for use in the production of food products for human consumption	29.38(4)(a)
Vitamin A acetate, for use in the production of food products for human consumption	29.38(4)(a)
Vitamin A palmitate, for use in the production of food products for human consumption	29.38(4)(a)
Vitamin A ₁ acid (retinoic acid), for use in the production of food products for human consumption	29.38(4)(a)
Vitamin A ₁ alcohol (axerophthol; retinol), for use in the production of food products for human consumption	29.38(4)(a)
Vitamin A ₁ aldehyde (retinal; retinene-1), for use in the production of food products for human consumption	29.38(4)(a)
Vitamin A ₂ , alcohol (3-dehydroaxerophthol; 3-dehydroretinol), for use in the production of food products for human consumption	29.38(4)(a)
Vitamin A ₂ , aldehyde (3-dehydroretinol; retinene-2), for use in the production of food products for human consumption	29.38(4)(a)
Vitamin B ₁ (aneurine; thiamine)	29.38(1)
Vitamin B ₂ (7,8-dimethyl-10-(1'-D-ribityl) isoalloxazine; lactoflavine; riboflavine)	29.38(1)
Vitamin B ₃ , derivative of, D-pantothenol (alpha, gamma-dehydroxy-N-3- hydroxypropyl-beta, beta-dimethyl butyramide; D(+)-pantothenyl alcohol; pantothenal)	+29.38(5)
Vitamin B ₃ , derivative of, D-pantothenol ethyl ether (d-alpha, gamma- dehydroxy-N-3-ethoxypropyl-beta, beta- dimethylbutyramide)	+29.38(5)
Vitamin B ₃ , derivative of, sodium-D-pantothenate	+29.38(5)
Vitamin B ₆ (adermine; 3-hydroxy-4,5-di- (hydroxymethyl)-2-methylpyridine; pyridoxine; pyridoxal)	+29.38(6)
Vitamin B ₆ , derivative of, pyridoxal (4-formyl-3-hydroxy-5- hydroxymethyl-2-methylpyridine)	+29.38(6)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1) (Cont'd)</u>	
Vitamin B ₆ , derivative of, pyridoxal hydrochloride	+29.38(6)
Vitamin B ₆ , derivative of, pyridoxamine (4-aminoethyl-3-hydroxy- 5-hydroxymethyl-2-methylpyridine)	+29.38(6)
Vitamin B ₆ , derivative of, pyridoxamine dihydrochloride	+29.38(6)
Vitamin B ₆ , derivative of, pyridoxamine phosphate	+29.38(6)
Vitamin B ₆ , derivative of, pyridoxine orthophosphate	+29.38(6)
Vitamin B ₆ , derivative of, pyridoxine tripalmitate	+29.38(6)
Vitamin B ₉ (folacin; folic acid; PGA; pteroylglutamic acid; Vitamin M)	29.38(1)
Vitamin B ₁₂ (cobalamin), not crystalline	+29.38(7)
Vitamin B ₁₂ , derivative of, sulphitocobalamin	+29.38(7)
Vitamin B _{12a} (cyanocobalamin)	+29.38(7)
Vitamin B _{12b} (hydroxocobalamin)	+29.38(7)
Vitamin B _{12c} (nitrocobalamin)	+29.38(7)
Vitamin C, derivative of, ascorbyl palmitate	+29.38(8)
Vitamin C, derivative of, calcium ascorbate	+29.38(8)
Vitamin C, derivative of, calcium ascorboglutamate	+29.38(8)
Vitamin C, derivative of, calcium hypophosphitoascorbate	+29.38(8)
Vitamin C, derivative of, magnesium ascorbate	+29.38(8)
Vitamin C, derivative of, sarcosine ascorbate	+29.38(8)
Vitamin C, derivative of, sodium ascorboglutamate	+29.38(8)
Vitamin C, derivative of, strontium (L) ascorbocinchoninate (strontium (L) ascorbo-2-phenyl- quinoline-4-carboxylate)	+29.38(8)
Vitamin D ₂ (calciferol; ergocalciferol; ergosterin, irradiated; ergosterol, irradiated; viosterol)	29.38(1)
Vitamin D ₄ (22,23-dihydroergosterol, irradiated)	29.38(1)
Vitamin D ₅ (7-dehydro-beta-sitosterol, irradiated)	29.38(1)
Vitamin E (tocopherol)	29.38(1)
Vitamin H (biotin)	29.38(1)
Vitamin K ₁ (2-methyl-3-phytyl-1,4- naphthaquinone; phylloquinone; phytomenadione; phytonadione)	29.38(1)
Vitamin K ₂ (3-difornesyl-2-methyl-1, 4-naphthaquinone; fornoquinone)	29.38(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Witherite, calcined	R-38
Xanthen (diphenylenemethane oxide, tricyclic)	29.35(1)
Xanthocillin	29.44(1)
Xenon	28.04(10)
Xylene (dimethylbenzene)	+29.01(22)
Xylidine	29.22(1)
Xylose	29.43(1)
Yara-Yara (2-methoxynaphthalene; methyl naphthyl ether; methyl-beta-naphthalate; beta-naphthyl methyl ether)	29.08(1)
Yohimbine hydrochloride	29.42(1)
Ytterbium	28.05(1)
Yttrium	28.05(1)
Yttrium acetate	28.52(1)
Yttrium antimonide	28.52(1)
Yttrium arsenide	28.52(1)
Yttrium bromide	28.52(1)
Yttrium carbonate	28.52(1)
Yttrium chloride	28.52(1)
Yttrium fluoride	28.52(1)
Yttrium nitrate	28.52(1)
Yttrium oxalate	28.52(1)
Yttrium oxide (yttria)	28.52(1)
Yttrium phosphide	28.52(1)
Yttrium sulphate	28.52(1)
Zinc aluminate	28.47(1)
Zinc arsenite (zinc meta-arsenite)	28.41(1)
Zinc borate	28.46(1)
Zinc bromide	28.33
Zinc carbonate, precipitated	28.42(1)
Zinc cyanide	28.43(1)
Zinc diamyl dithiocarbamate	29.31(1)
Zinc dibenzyl dithiocarbamate	29.31(1)
Zinc dibutyl dithiocarbamate dibutylamine complex	29.31(1)
Zinc dimethyl dithiocarbamate cyclohexylamine complex (zinc dithioamine complex)	29.31(1)
Zinc dimethyl pentamethylene dithiocarbamate	29.35(1)
Zinc ethylene bisdithiocarbamate (zineb)	+29.31(18)
Zinc fluoride	28.29(1)
Zinc fluoroborate (zinc fluoborate)	28.29(1)
Zinc fluorosilicate (zinc fluosilicate; zinc silicofluoride)	28.29(1)
Zinc glucoheptonate	29.16(1)
Zinc hypochlorite	28.31(1)
Zinc iodide	28.34(1)
Zinc isopropyl xanthate	29.31(1)
Zinc lactate	29.16(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>208t (20839-1)(Cont'd)</u>	
Zinc oxysulphate	28.38(1)
Zinc pentamethylene dithiocarbamate	29.35(1)
Zinc pentamethylene dithiocarbamate- piperidine complex	29.35(1)
Zinc perborate	28.46(1)
Zinc permanganate	28.47(1)
Zinc peroxide (zinc dioxide)	+28.19
Zinc phenolsulphonate (zinc sulphophenate; zinc sulphocarbolate)	29.07(1)
Zinc phosphate, tribasic	28.40(1)
Zinc propionate	29.14(1)
Zinc silicate	28.45(1)
Zinc sulphide	28.35(1)
Zinc sulphite	28.37(1)
Zinc tannate	32.02(2)
Zinc thiobenzoate	29.31(1)
Zinc thiophosphate	28.48(1)
Zirconates	28.47(1)
Zirconium borate	28.46(1)
Zirconium boride	28.57(1)
Zirconium carbide	28.56(1)
Zirconium carbonitride	28.56(1)
Zirconium hydride	28.57(1)
Zirconium nitride	28.57(1)
Zirconium, n.o.p.	R-36(1)

Any product listed above, when for the uses specified in Rec. Items R-31 663b, R-35 791, 31.00(1) or 38.11 would be in that recommended item.

Where products are shown as being under more than one Recommended Item, the classification is dependent on the wording of the item. Products shown in four-figure recommended item beginning with 28 or 29 must meet the requirements for chemical definition or purity for these items.

Imports under this item are estimated to have been more than \$60 million in 1965, about 80 per cent from M.F.N. countries. It is thought that about 85 per cent of these imports are chemicals relevant to Reference 120.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>Ex. 208t (20839-2)</u>			
Permanganate of potash:	Free 15 25		
Potassium permanganate (purple salt)		28.47(1)	Free 15 25
<u>Imports under this item are estimated to have been small in 1965, and all from M.F.N. countries.</u>			
<u>Ex. 208t (20839-3)</u>			
Mono-glyceride emulsifiers	Free 5 25		
Glycerol mono-oleate (glyceryl mono-oleate)		29.14(34)	10 15 25
Glycerol monostearate (glyceryl mono-stearate; monostearin)		29.14(35)	10 15 25
Mono-glyceride emulsifiers		38.19(1)	10 15 25

Imports under this item are estimated to have been nearly one million dollars in 1964 and 1965; all came from M.F.N. countries in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>Ex. 208t (20839-4)</u>			
Wollastonite:	Free 5 25	R-19 *295a	Free Free Free
<u>Imports under this item are estimated to have been small in 1964 and 1965, all from M.F.N. countries in 1965.</u>			
<u>Ex. 208t (20839-5)</u>			
Cobalt metal, in lumps, powder, ingots, blocks or bars:	Free 10 25		
Cobalt		R-36(3)	Free 10 25
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<u>Imports under this item are estimated to have been nearly \$2 million in 1964 and nearly \$4 million in 1965; in 1965, practically all imports were from M.F.N. countries.</u>			
<u>208u (20841-1)</u>			
Xanthates and sulpho-thio-phosphoric (dithio-phosphoric) compounds, for use in the process of concentrating ores, metals or minerals:	Free Free Free		
Amyl xanthate		29.31(1)	Free 15 25
Benzyl xanthate		29.31(1)	Free 15 25
Butyl xanthate		29.31(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
208u (20841-1) (Cont'd)			
Methyl xanthate		29.31(1)	Free 15 25
Sodium ethylxanthate		29.31(1)	Free 15 25
Sulpho-thio-phosphoric (dithio-phosphoric) compounds for use in the process of concentrating ores, metals or minerals		R-11 208u	Free 10
Potassium amyl xanthate		29.31(5)	10 15 25
Potassium ethyl xanthate		29.31(6)	10 15 25
Potassium isopropyl xanthate		29.31(7)	10 15 25
Sodium sec-butyl xanthate		29.31(9)	10 15 25
Sodium isopropyl xanthate		29.31(12)	10 15 25
Zinc isopropyl xanthate		29.31(1)	Free 15 25

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Imports under this item are estimated to have been over one million dollars in 1965, all from M.F.N. countries.

208v (20843-1)

Methyl ethyl ketone, n.o.p., and isopropyl acetate:	Free 25 25		
Ethylmethyl ketone (butanone; methyl-ethylketone)		29.13(7)	10 15 25
Isopropyl acetate		29.14(37)	10 15 25

Imports under this item are estimated to have been about a quarter of a million dollars in 1965, substantially more than in 1964, in 1965, they were all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208w1 (20845-1)</u>			
Theobromine, crude:	Free Free Free		
Theobromine (3,7-dimethylxanthine), crude		29.42(1)	Free 15 25
<u>Imports under this item are estimated to have been negligible in 1964 and in 1965.</u>			
<u>208w2 (20847-1)</u>			
Crude bromides for the production of bromine:	Free Free Free		
Bromides, non-metallic, crude, for the production of bromine		28.14(1)	Free 15 25
<u>There are no known imports under this item.</u>			
<u>208w3 (20849-1)</u>			
Dimethyl sulphate:	Free Free Free		
Dimethyl sulphate (methyl sulphate)		29.17(4)	Free Free Free
<u>There are no known imports under this item.</u>			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>208x (20851-1) (Unchanged)</u>			
Materials and parts, entering into the cost of cyanide of calcium, cyanide of potassium and cyanide of sodium, for use in the manufacture of cyanide of calcium, cyanide of potassium and cyanide of sodium:	Free Free Free		
<u>Imports under this item are estimated to have been small in 1965, all from M.F.N. countries.</u>			
<u>208y (20853-1)</u>			
Urethane and methyl pentanal for use in the manufacture of meprobamate:	Free Free 25		
Ethyl carbamate (see urethane)			
Methyl pentanal		29.11(1)	Free 15 25
Urethane (ethyl carbamate; ethyl urethane; urethan)		29.25(1)	Free 15 25
<u>Imports under this item are estimated to have been small in 1965, all from M.F.N. countries.</u>			
<u>208z (20855-1) (Expired, 31/10/65)</u>			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
209 (20900-1)			
Potash, muriate and sulphate of, crude; salt-petre or nitrate of potash:	Free Free Free		
Muriate of potash (a potassium salt containing not less than 48 per cent soluble potash chiefly as chlorides)		31.00(1) 31.00(1)	Free Free Free Free
Potash manure salts			
Potassium chloride, but not including cultured crystals weighing not less than $2\frac{1}{2}$ grammes each		31.00(2)	Free Free
Potassium nitrate (nitrate of potash; nitre; saltpetre)			
Potassium nitrate (nitrate of potash)		28.39(4)	Free Free
Potassium sulphate (salt of Lemery), less than 99 per cent pure, containing, in the dry state, more than 52 per cent by weight of K_2O		31.00(1)	Free Free
Potassium sulphate containing in the dry state, not more than 52 per cent by weight of K_2O		28.38(16)(ii)	Free Free
Sulphate of potash (a potassium salt containing not less than 48 per cent soluble potash chiefly as sulphate and not more than 2.5 per cent chlorine)		31.00(2) 31.00(1)	Free Free Free Free

Any product of tariff item 209, when for use as a fertilizer, would be in Recommended Item 31.00(1).

Imports under this item are estimated to have been over one million dollars in 1965, all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>209a1 (20905-1)</u>			
Potash, pearl ash and caustic potash:- When in packages of not less than twenty-five pounds weight each:	Free Free Free		
Potassium carbonate (pearl ash; potash)		28.42(5)	Free Free Free
Potassium hydroxide (caustic potash; potassium hydrate; potassa; lye), when in packages of not less than 25 pounds		28.17(1)	7½ 7½ 20
<u>Any product of tariff item 209a1, when for use as a fertilizer, would be in Recommended Item 31.00(1).</u>			
Imports under this item are estimated to have been about half a million dollars in 1965, all from M.F.N. countries.			

209a2 (20906-1)

Potash, pearl ash and caustic potash:- When in packages of less than twenty- five pounds weight each:	10 12½ 15		
Potassium carbonate (pearl ash; potash)		28.42(5)	Free Free Free
Potassium hydroxide (caustic potash; potassium hydrate; potassa; lye), when in packages of less than 25 pounds		28.17(1)	7½ 7½ 20

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
209a2 (20906-1) (Cont'd)			
<u>Any product of tariff item 209a2, when for use as a fertilizer, would be in Recommended Item 31.00(1).</u>			
Imports under this item are estimated to have been negligible in 1964 and 1965.			
209b (20910-1)			
Nicotine; salts of nicotine; non-alcoholic preparations containing nicotine in a free or combined state, for dipping, spraying or fumigating, n.o.p.:	Free Free 10		
Nicotine (beta-pyridyl-alpha-N-methylpyrrolidine) and its salts		29.42(2)	Free Free 10
Nicotine (beta-pyridyl-alpha-N-methylpyrrolidine), its salts and its preparations		38.11	Free Free Free
<u>Imports under this item are estimated to have been small in 1965, about equally divided between B.P. and M.F.N. countries.</u>			
209c (20915-1)			
Bichromate of potash, crude; red and yellow prussiate of potash:	Free 15 15		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>209c (20915-1) (Cont'd)</u>			
Potassium dichromate (potassium bichromate; potassium chromate red), crude		28.47(1)	Free 15 25
Potassium ferricyanide (red prussiate of potash; red potassium prussiate)		28.43(1)	Free 15 25
Potassium ferrocyanide (yellow prussiate of potash)		28.43(1)	Free 15 25
<u>Imports under this item are estimated to have been small in 1964 and 1965; most were from B.P. countries in 1965.</u>			
<u>209d (20920-1)</u>			
Potash, chlorate of, not further prepared than ground:	Free 15 20		
Potassium chlorate		28.32(2)	10 15 25
<u>Imports under this item are estimated to have been small in 1964 and in 1965; in 1965 all were from M.F.N. countries.</u>			
<u>209e (20925-1)</u>			
Potassium chloride	Free Free 25		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>209e (20925-1) (Cont'd)</u>			
Potassium chloride, but not including cultured crystals weighing not less than 2½ grammes each		31.00(2)	Free Free Free
<u>Imports under this item are estimated to have been substantially less than a quarter of a million dollars in 1965, all from M.F.N. countries.</u>			
<u>209f (Cancelled)</u>			
Expired, 30/6/63, D47-432			
<u>210 (21000-1)</u>			
Peroxide of soda; silicate of soda, dry or in water solution; bichromate of soda; sulphide of sodium; nitrite of soda; arseniate, binarseniate, chlorate, bisulphite and stannate of soda, prussiate of soda and sulphite of soda:	Free 12½ 20		Free 10 15
Sodium arsenates		28.41(2)	
Sodium bisulphite (leucogen; sodium hydrogen sulphite; sodium acid sulphite)		28.37(2)	Free 12½ 20
Sodium chlorate		28.32(3)	Free 10 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>210 (21000-1) (Cont'd)</u>			
Sodium dichromate (bichromate of soda; sodium bichromate)		28.47(2)	Free 12½ 25
Sodium ferricyanide (red prussiate of soda)		28.43(5)	Free Free
Sodium ferrocyanide (yellow prussiate of soda)			
Sodium metabisulphite (sodium pyrosulphite)		28.43(6)	Free Free
		28.37(3)	Free 12½ 20
		37.08	10 15 25
		28.39(6)	Free 12½ 25
Sodium nitrite (diazotizing salts)			
Sodium peroxide (peroxide of soda; sodium dioxide)		28.17(4)	Free 15 25
Sodium silicates		28.45(3)	Free 12½ 20
Sodium stannate (preparing salt)		28.47(3)	Free 12½ 25
Sodium sulphide (sodium sulphuret)		28.35(2)	Free 12½ 20
		37.08	10 15 25
Sodium sulphite		37.08	10 15 25
Sodium sulphite, neutral		28.37(4)	Free 12½ 20

Imports under this item are estimated to have been about \$2 million in 1964 and about \$3 million in 1965; about 65 per cent of all imports were from M.F.N. countries in 1965.

210a1 (21005-1)

Caustic soda:-

When in packages of not less than twenty-five pounds weight each:

per pound 1/5¢ 3/10¢ 3/10¢

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
210a1 (21005-1) (Cont'd)			
Sodium hydroxide (caustic soda; lye; sodium hydrate; white caustic), anhydrous, when in packages of not less than 25 pounds		28.17(3)	10 15 25
<u>Imports</u> under this item are estimated to have been about one quarter of a million dollars in 1964 and 1965; in 1965 they all came from M.F.N. countries. The specific rate of duty appears to have been about 5 per cent in 1964 and in 1965.			
210a2 (21006-1)			
Caustic soda:-			
When in packages of less than twenty-five pounds weight each:	17½ 25 25		
Sodium hydroxide (caustic soda; lye; sodium hydrate; white caustic), anhydrous, when in packages of less than 25 pounds		28.17(3)	10 15 25
<u>Imports</u> under this item are estimated to have been negligible in 1964 and in 1965.			
210b(i) (21010-1)			
Barilla or soda ash:			
per one hundred pounds	15¢ 25¢ 30¢		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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210b(i) (21010-1) (Cont'd)

Sodium carbonate, anhydrous (soda ash), other than reagent purified powder		28.42(7)	10 15 25
Sodium carbonates, natural		R-12 210b	10 15 25

Imports under this item are estimated to have been over \$3.5 million in 1964 and 1965, practically all from M.F.N. countries in 1965. The specific rate of duty appears to be equivalent to about 15 per cent in 1964 and in 1965.

210b(ii) (21015-1)

Sal soda:	per one hundred pounds	20¢ 30¢ 30¢	
Sodium carbonate decahydrate (sal soda)		28.42(8)	10 15 25
Sodium carbonates, natural		R-12 210b	10 15 25

Imports under this item are estimated to have been negligible in 1964 and 1965. The specific rate of duty appears to have been equivalent to about 15 per cent in 1964 and 7 per cent in 1965.

210c (21020-1)

Caustic soda in solution:	15 17½ 17½		
Sodium hydroxide (caustic soda; lye; sodium hydrate; white caustic), in solution		28.17(3)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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210c (21020-1) (Cont'd)

Imports under this item are estimated to have been about \$5.5 million in 1964 and \$4.9 million in 1965; virtually all were from M.F.N. countries in both each year.

210d (21025-1)

Sodium, sulphate of, crude, or salt cake: 1/5¢ 1/5¢ 3/5¢
per pound

Sodium sulphate, natural	R-13	210d	10	15	25
Sodium sulphate, neutral, anhydrous (salt-cake), crude but not natural	28.38(18)		10	15	25

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Imports under this item are estimated to have been about a quarter of a million dollars in 1964 and about half a million dollars in 1965; in 1965 more than half were from B.P. countries. The ad valorem rate of duty appears to have been the equivalent of about 18 per cent in 1964 and 22 per cent in 1965.

210e (21030-1)

Nitrate of soda or cubic nitre: Free Free Free

Sodium nitrate (soda nitre), containing, in the dry state, more than 16.3 per cent by weight of nitrogen

28.39(5)	Free	Free	Free
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<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>210e (21030-1) (Cont'd)</u>			
Sodium nitrate containing, in the dry state, not more than 16.3 per cent by weight of nitrogen		31.00(2)	Free Free Free
<u>Sodium nitrate for use as fertilizer would be in Recommended Item 31.00(1).</u>			
Imports under this item are estimated to have been about \$1.5 million in 1965, nearly all from M.F.N. countries.			
<u>210f (Cancelled)</u>			
Expired, 30/6/65, D47-439			
<u>210g (21035-1)</u>			
Potassic nitrate of soda, n.o.p.:	Free Free 25		
Potassic sodium nitrate		31.00(2)	Free Free Free
<u>There are no known imports under this item.</u>			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>210h (21040-1) (Unchanged)</u>			
Sal ammoniac skimmings:	Free	Free	Free
<u>Imports under this item are estimated to have been less than \$50,000 in 1965, all from M.F.N. countries.</u>			
<u>210i (21045-1)</u>			
Sodium hypochlorite in solution:	15	20	30
Sodium hypochlorite		28.31(3)	10
Sodium hypochlorite in solution		38.11	Free
			25
			Free
			141
<u>Imports under this item are estimated to have been negligible in 1964 and in 1965.</u>			
<u>*211 (21100-1)</u>			
Alumina:	Free	Free	Free
Aluminum hydroxide, other than crude or concentrated bauxite, whether or not activated		28.20	Free
Aluminum oxide (alumina)		28.20	Free
Bauxite, activated		38.03	Free
Bauxite, whether or not washed or calcined		R-14 *211	Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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*211 (21100-1) (Cont'd)

Imports under this item are reported to have been about \$56 million in 1964 and \$52 million in 1965, over 70 per cent from B.P. countries.

211a (21105-1)

Chloride of aluminum, or choralum:

Free 10 10

Aluminum chloride

28.30(2) Free 10 20

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Imports under this item are estimated to have been about \$50,000 in 1964 and 1965; in 1965 they were almost all from M.F.N. countries.

212 (21200-1)

Sulphate of alumina or alum cake; and alum in bulk, ground or unground, but not calcined:

Free 10 15

Aluminum ammonium sulphate (ammonia alum; ammonium alum), not calcined

28.38(2) Free 10 15

Aluminum potassium sulphate (potash alum; potassium alum), not calcined

28.38(3) Free 10 15
37.08 10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>212 (21200-1) (Cont'd)</u>			
Aluminum sodium sulphate (porous alum; soda alum; SAS; sodium aluminum sulphate), not calcined		28.38(4)	Free 10 15
Aluminum sulphate, basic or normal (alum; alum cake; filter alum; papermaker's alum; patent alum; pearl alum; pickle alum)		28.38(5)	Free 10 15
<u>Imports under this item are reported to have been about \$119,000 in 1964 and about \$92,000 in 1965; about 80 per cent of the imports were from M.F.N. countries.</u>			
<u>213 (21300-1)</u>			
Acid, acetic and pyroligneous, n.o.p., and vinegar:- per gallon of any strength not exceeding the strength of proof and in addition thereto, for each degree of strength in excess of the strength of proof	10¢ 12½¢ 15¢		
The strength of proof shall be held to be equal to six per cent of absolute acid, and shall be determined in the manner prescribed by the Governor in Council	1½¢ 1¾¢ 2¢		
Acetic acid (ethanoic acid; methane-carboxylic acid; vinegar acid)		29.14(2)	10 15 25
Acetic anhydride (acetic oxide; acetyl oxide)		29.14(3)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
213 (21300-1) (Cont'd)			
Pyroligneous acid		29.14(56)	10 15 25

Imports under this item are estimated to have been less than \$50,000 in 1964 and 1965, all but an insignificant part from M.F.N. countries in 1965.

Ex. 213 (21300-2)

Vinegar:- per gallon of any strength not exceeding the strength of proof and in addition thereto, for each degree of strength in excess of the strength of proof
The strength of proof shall be held to be equal to six per cent of absolute acid, and shall be determined in the manner prescribed by the Governor in Council

Vinegar		R-15 213	10 15 25
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Imports under this item are estimated to have been about \$50,000 in 1964 and 1965; in 1965 all were from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>214 (21400-1)</u>			
Acid, acetic, crude, and pyroligneous crude, of any strength not exceeding thirty per cent:	15 22½ 25		
Acetic acid (ethanoic acid; methane-carboxylic acid; vinegar acid)		29.14(2)	10 15 25
Pyroligneous acid, crude (wood vinegar)		29.14(56)	10 15 25

Imports under this item are estimated to have been negligible in 1964 and in 1965.

215 (21500-1)

Stearic acid, n.o.p.:	Free 12½ 20		
Stearic acid (n-octodecanoic acid)		15.10(2) 29.14(1)	10 15 25 Free 15 25

Imports under this item are estimated to have been about a quarter of a million dollars in 1965, nearly all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
215a (21505-1)			
Stearic acid, when imported by manufacturers of candles or crayons for use only in their own factories in the manufacture of candles or crayons:	Free Free Free		
Stearic acid (n-octodecanoic acid)		15.10(2) 29.14(1)	10 15 25 Free 15 25

There are no known imports under this item.

Existing Item
216 (21600-1)

Acids, n.o.p., of a kind not produced
in Canada

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
Free	15 p.c.	25 p.c.

Recommended Item

Except for (+) items,
recommended rates are:

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
Free	15 p.c.	25 p.c.

For (+) items, see rates
listed in Appendix I.

Abietic acid (abietinic acid; sylvic acid)	+38.08
Acetylorthocresotic acid	29.16(1)
Acetylsalicylic acid (aspirin; orthoacetoxybenzoic acid)	29.16(1)
Acid pentobarbital (see pentobarbitone)	
Acrylic acid (acrolein acid; ethylenecarboxylic acid; propenoic acid; vinylformic acid)	+29.14(5)
Alanine (alpha-alanine; 2-aminopropanoic acid; alpha-aminopropionic acid)	29.23(1)
b-Alanine (3-aminopropanoic acid; beta-aminopropionic acid)	29.23(1)
Alginic acid	39.06(1)
Alkyl benzene sulphonic acid	29.03(1)
Allobarbitone (allobarbitol; curral; dial, diallyl barbituric acid)	29.25(1)
Allyl-isopropyl-barbituric acid (allyl-isopropylmalonylurea; aprobarbital)	29.25(1)
Aminoazobenzenesulphonic acid	29.28
m-Aminobenzene sulphonic acid (metalinic acid; meta-sulphanilic acid)	29.22(1)
p-Aminobenzene sulphonic acid (see sulphanilic acid)	29.23(1)
Aminobenzoic acids (ortho-, meta-, para-)	29.23(1)
Amino-carboxylic acids	+34.02
Aminodichlorobenzoic acid	29.23(1)
Amino-hydroxyphenylarsonic acids	29.32
8-Amino-1-naphthol-3,6-disulphonic acid (1-amino-8-naphthol-3,6-disulphonic acid; H acid)	29.23(1)
7-Amino-1-naphthol-3-sulphonic acid (2-amino-8-naphthol-6-sulphonic acid; gamma acid)	29.23(1)
6-Aminonaphthylene-2-sulphonic acid	29.22(1)
6-Aminopenicillanic acid	29.35(1)
Aminosalicylic acids (aminohydroxybenzoic acids)	29.23(1)
Anisic acid (para-methoxybenzoic acid)	29.16(1)
Arginine (guanidine aminovaleric acid; amino-4-guanidovaleric acid)	29.26(1)
Arsanilic acid (atoxylic acid; para-amino-benzene-arsonic acid; para-amino-phenylarsonic acid; arsenic acid anilide)	29.32
meta-Arsenic acid	28.11(1)
ortho-Arsenic acid	28.11(1)
Pyro-arsenic acid	28.11(1)
Aspartic acid (asparagic acid; asparaginic acid; aminosuccinic acid)	29.23(1)
Auric hydroxide (auric acid)	28.49(1)
Azoxybenzoic acid	29.28
Azoxycinnamic acid	29.28

<u>Existing Item</u>	<u>Recommended Item</u>
<u>216 (21600-1) (Cont'd)</u>	
Barbitone (barbital; diethylbarbituric acid; diethylmalonylurea; embenal; medinal; Veronal)	29.25(1)
Barbituric acid (malonylurea; pyrimidinetrione)	29.25(1)
Benzenedisulphonic acids	29.03(1)
Benzenesulphonic acid (phenylsulphonic acid)	29.03(1)
Benzilic acid	29.16(1)
Boric acid (boracic acid; orthoboric acid), other than crude natural boric acid, in packages weighing less than twenty-five pounds	+28.12(1)
Bromic acid	28.13(1)
Bromiodobenzenedisulphonic acid	29.03(1)
Bromiodobenzenesulphonic acid	29.03(1)
Butabarbituric acid	29.25(1)
Butobarbitone (butethal; butobarbital; 5-butyl-5-ethylbarbituric acid)	29.25(1)
p-tert-Butyl benzoic acid	29.14(1)
n-Butyl-ethylbarbituric acid	29.25(1)
Butyric acid (butanoic acid; ethylacetic acid; propylformic acid)	29.14(1)
Cacodylic acid (dimethylarsenic acid)	29.32
Camphorsulphonic acid	29.13(1)
Capric acid (decanoic acid; decoic acid; decylic acid)	29.14(1)
Chloric acid	28.13(1)
Chloroacetic acid (chloracetic acid; monochloroacetic acid)	29.14(1)
2-Chloro-4-aminotoluene-5-sulphonic acid	29.22(1)
2-Chloro-5-aminotoluene-4-sulphonic acid	29.22(1)
Chlorauric acid (chlorauric acid; yellow chloride)	28.49(1)
Chlorobenzoic acids	29.14(1)
Chloriodobenzenedisulphonic acids	29.03(1)
Chloriodobenzenesulphonic acids	29.03(1)
Chloromethylphenoxybutyric acid	29.16(1)
4-Chloro-2-methylphenoxypropionic acid	29.16(1)
Chloronaphthalenesulphonic acids	29.03(1)
o-Chloro-p-nitroaniline (2-chloro-4-nitroaniline)	29.22(1)
p-chloro-o-nitroaniline	29.22(1)
Chloroplatinic acid (commercial platinum chloride; platinic chloride)	28.49(1)
Chloroplatinous acid	28.49(1)
Chlorosulphonic acid	+28.06(2)
Cholic acid	+29.16(8)
Cinnamic acid (cinnamylic acid; beta-phenylacrylic acid)	29.14(1)
Cresotic acid (cresotinic acid; hydroxytoluic acid)	29.16(1)
Cyclobarbitone (cyclobarbital; 5-(1-cyclohexenyl)-5-ethylbarbituric acid; tetrahydrophenobarbital)	29.25(1)
Cyclohexanecarboxylic acid (hexahydrobenzoic acid)	29.14(1)
Cyclopentylacetic acid	29.14(1)
Dehydracetic acid	29.35(1)
Diacetoneketogulonic acid	+29.16(12)
para-Diazobenzenesulphonic acid	29.28
Diazosalicylic acid	29.28

<u>Existing Item</u>	<u>Recommended Item</u>
<u>216 (21600-1)</u> (Cont'd)	
Dibromoacetic acid	29.14(1)
Dichloroacetic acid (bichloroacetic acid; Urner's liquid)	29.14(1)
Dichlorobenzoic acids	29.14(1)
Dichlorophthalic acid	29.15(1)
Diethylenetriamine N-N,N,N',N'',N'''-penta acetic acid	29.23(1)
Diethylmalonylurea (see barbitone)	
Dihydroxydiphenyl sulphone	29.31(1)
Dinitrobenzenesulphonic acids	29.03(1)
Dinitrostilbenedisulphonic acids	29.03(1)
Dinitrotoluenesulphonic acids	29.03(1)
Disodium diethylenetriaminepentacetate	29.23(1)
Dithiodiglycollic acid	29.31(1)
Dithioglycollic acid	29.31(1)
Erythorbic acid (formerly isoascorbic acid)	29.35(1)
Ethanesulphonic acid	29.03(1)
2-Ethyl butyric acid (diethyl acetic acid)	29.14(1)
Ethylenesulphonic acid	29.03(1)
2-Ethylhexoic acid	29.14(1)
Ethylstannic acid	29.34(1)
Folinic acid (citrovorum factor; 5-formyl-5,6,7,8-tetrahydro-pteroylglutamic acid)	29.38(1)
Fulminic acid	28.13(1)
Fumaric acid (alomaleic acid; boletic acid; lichenic acid)	+29.15(29)
Gluconic acid (dextronic acid; glycogenic acid; glyconic acid)	29.16(1)
Glycerophosphoric acid (glycerinophosphoric acid; glycerolphosphoric acid)	29.19(1)
Glycine (aminoacetic acid; glycocoll)	29.23(1)
Halazone (para-N,N-dichloro-sulphamylbenzoic acid; para-sulphondichloramino-benzoic acid)	29.36(1)
Heavy acetic acids	+28.51
Heptyne carboxylic acid	29.14(1)
Hexahydroxyplatinic acid	28.49(1)
Hexobarbitone (hexobarbital; N-methyl-5-cyclohexenyl-5-methylbarbituric acid)	29.25(1)
n-Hexoic acid (caproic acid; hexanoic acid; hexylic acid)	29.14(1)
Hydrazoic acid	28.13(1)
Hydriodic acid (hydrogen iodide)	28.13(1)
meta-Hydrobenzoic acid	29.16(1)
ortho-Hydrobenzoic acid (see salicylic acid)	
para-Hydrobenzoic acid	29.16(1)
Hydrobromic acid (hydrogen bromide)	28.13(1)
Hydrogenated cocoanut fatty acid	+15.10(2)
Hydrogenated tallow fatty acid	+15.10(2)
Hydrogen cyanide (formonitrile; hydrocyanic acid; prussic acid)	28.13(1)
Hydroxamic acids	29.29

<u>Existing Item</u>	<u>Recommended Item</u>
<u>216 (21600-1)(Cont'd)</u>	
Hydroxyanthracenecarboxylic acids	29.16(1)
3b-Hydroxy-5-cholenic acid	+29.16(17)
Hydroxyethylethylenediaminetriacetic acid	29.23(1)
3-Hydroxy-2-naphthoic acid (beta-hydroxynaphthoic acid; 3-naphthol-2-carboxylic acid; beta-oxynaphthoic acid)	29.16(1)
Hyochoic acid	+29.16(19)
Hyodesoxychoic acid	+29.16(20)
Hypochlorous acid	28.13(1)
Hypophosphoric acid	28.13(1)
Hypophosphorous acid	28.13(1)
Iodic acid	28.13(1)
Iodobenzenedisulphonic acids	29.03(1)
Iodobenzenesulphonic acids	29.03(1)
Isoascorbic acid (see erythorbic acid)	
Isobutyric acid	29.14(1)
Isocyanic acid	28.13(1)
Isoleucine (a-amino-b-methylvaleric acid; 2-amino-3-methylpentanoic acid)	29.23(1)
Isonicotinic acid (pyridine-gamma-carboxylic acid)	29.35(1)
Isophthalic acid (metaphthalic acid)	29.15(1)
Isovaleric acid	29.14(1)
Lactic acid (alpha-hydroxypropionic acid; milk acid)	29.16(1)
Lauric acid (dodecanoic acid), other than crude	29.14(1)
Lauryl mercaptoacetic acid	29.31(1)
Lauryl thioglycollate	29.31(1)
Leucine (a-aminoisocaproic acid; a-amino-gamma-methylvaleric acid)	29.23(1)
Linoleic acid (linolic acid)	29.14(1)
Lysine (alpha-epsilon-diaminocaproic acid; diamino-n-hexoic acid)	29.23(1)
Maleic acid (maleinic acid)	+29.15(31)
Malonic acid (methanededicarbonic acid)	29.15(1)
Malonylurea (see barbituric acid)	
Mandelic acid (amygdalic acid; benzoglycolic acid; phenylglycolic acid; alpha-phenylhydroxyacetic acid)	29.16(1)
ortho-Mercaptobenzoic acid (thiosalicylic acid)	29.31(1)
Mersalyl acid	29.33
Methacrylic acid (alpha-methacrylic acid)	+29.14(48)
Methylarsonic acid	29.32
2-Methyl-4-chlorophenoxyacetic acid	+29.16(21)
1-Methyl-4-phenylpiperidinecarboxylic acid	29.35(1)
Mixed fatty acids	+15.10(2)
Monobromoacetic acid	29.14(1)
Naphthalenesulphonic acids	29.03(1)
Naphthoic acids	29.14(1)
Naphtholsulphonic acids	29.07(1)
Naphthosultam-2,4-disulphonic acid (sultam acid)	29.37
1-Naphthylamine-2-sulphonic acid	29.22(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>216 (21600-1)</u> (Cont'd)	
2-Naphthylamine-1-sulphonic acid (2-amino-1-naphthalene sulphonic acid; Tobias acid)	29.22(1)
N-1-Naphthylphthalamide acid	+29.25(9)
Niacin (see nicotinic acid)	
Nicotinic acid (niacin; pro-PP factor; pyridene-beta-carboxylic acid)	29.38(1)
Nitrobenzenesulphonic acids	29.03(1)
Nitrobenzoic acids (meta-, ortho-, para-)	29.14(1)
3-Nitro-4-hydroxyphenylarsonic acid	29.32
Nitronaphthalenesulphonic acids	29.03(1)
Nitrotoluenesulphonic acids	29.03(1)
n-Octoic acid (caprylic acid; octanoic acid; octylic acid)	29.14(1)
Octyne carboxylic acid	29.14(1)
Olive fatty acid	+15.10(2)
b-Oxynaphthoic acid (see 3-hydroxy-2-naphthoic acid)	
Palmitic acid (cetylic acid; hexadecanoic acid; palmitinic acid)	29.14(1)
Peanut fatty acid	+15.10(2)
Pelargonic acid (n-nonanoic acid; n-nonoic acid; n-nonylic acid)	29.14(1)
Pentobarbitone (5-ethyl-5-(1-methylbutyl) barbituric acid; pentobarbital)	29.25(1)
Peracetic acid (peroxyacetic acid)	29.14(1)
Perchloric acid (Fraude's reagent)	28.13(1)
Perfluorobutyric acid	29.14(1)
Perfluoro octanoic acid	29.14(1)
Perfluoro propionic acid	29.14(1)
Periodic acid	28.13(1)
Persulphuric acid (Caro's acid; peroxy sulphuric acid)	28.13(1)
Phenobarbital (5-ethyl-5-phenylbarbituric acid; phenobarbitone; phenylbarbital)	29.25(1)
Phenobarbitone (see phenobarbital)	
Phenylacetic acid (alpha-toluic acid)	29.14(1)
Phenylalanine (alpha-amino-beta-phenylpropionic acid)	29.23(1)
Phenylpropionic acid	29.14(1)
Phenylquinolinecarboxylic acid (phenylcinchoninic acid; cinchophen)	29.35(1)
Phosphorous acid (ortho-phosphorous acid)	28.13(1)
Phthalic acid (naphthalic acid; orthobenzene dicarboxylic acid; orthophthalic acid)	+29.15(36)
Phthalylsulphathiazole (4'-(2-thiazolylsulphamyl) phthalanilic acid)	29.36(1)
Piperonylic acid	29.16(1)
Probenecid ((dipropylsulphamyl) benzoic acid)	29.36(1)
Propionic acid (methylacetic acid; propanoic acid)	29.14(1)
Pro-PP factor (see nicotinic acid)	
Pyridine-gamma-carboxylic acid (see isonicotinic acid)	

<u>Existing Item</u>	<u>Recommended Item</u>
<u>216 (21600-1) (Cont'd)</u>	
Salicylic acid (ortho-hydroxybenzoic acid)	29.16(1)
Sarcosine (methylaminoacetic acid; methylglycocoll)	29.23(1)
Sebacic acid (decanedioic acid; octanedicarboxylic acid; sebacylic acid)	29.15(1)
Selenic acid	28.13(1)
Selenious acid	28.13(1)
Serine (alpha-amino-beta-hydroxypropionic acid; beta-hydroxyalanine)	29.23(1)
Silicobenzoic acid	29.34(1)
Sorbic acid (2,4-hexadienoic acid)	29.14(1)
Succinic acid (butanedioic acid; ethylenedicarboxylic acid)	29.15(1)
Sulphamic acid	+28.13(7)
ortho-Sulphamylbenzoic acid	29.36(1)
Sulphanilic acid (para-aminobenzenesulphonic acid; para-anilinesulphonic acid)	29.22(1)
5-Sulphosalicylic acid	29.16(1)
Telluric acid (hydrogen tellurate; trihydrated telluric oxide)	28.13(1)
Tellurous acid	28.13(1)
Terephthalic acid, (benzene-para-dicarboxylic acid; paraphthalic acid)	29.15(1)
Tetrachlorophthalic acid	29.15(1)
Tetrasodium diethylenetriaminepentacetate	29.23(1)
Thiobenzoic acid (benzenecarbothioic acid)	29.31(1)
Thiocyanic acid	28.13(1)
3,3'-Thiodipropionic acid	29.31(1)
Thioglycollic acid (mercaptoacetic acid)	29.31(1)
Thionic acids	28.13(1)
Tin hydroxides (metastannic and stannic acids)	28.28(1)
Toluenealphasulphonic acids	29.03(1)
Toluene sulphonic acid	+29.03(11)
n-Toluic acid	29.14(1)
p-Toluidine-m-sulphonic acid (2-aminotoluene-5-sulphonic acid; 4-amino-meta-toluenesulphonic acid)	29.22(1)
Tribromoacetic acid	29.14(1)
Trichloroisocyanuric acid (1,3,5-trichloro-s-triazine-2,4,6-trione)	29.35(1)
3,3,3-Trichlorolactic	29.16(1)
Trifluoroacetic acid	29.14(1)
Trinitrobenzenesulphonic acids	29.03(1)
Trinitrotoluenesulphonic acids	29.03(1)
Tungstic acid (orthotungstic acid; wolframic acid)	28.28(1)
Tungstoboric acid (borotungstic acid; borowolframic acid)	28.13(1)
Tungstosilicic acid (silicotungstic acid; silico wolframic acid)	28.13(1)
Tyrosine (beta-para-hydroxyphenylalaline; alpha-amino-beta-para-hydroxyphenylpropionic acid)	29.23(1)
Valeric acid (n-pentanoic acid; valerianic acid)	29.14(1)
Valine (alpha-aminoisolvaleric acid)	29.23(1)
Vanadium hydroxide (with water)	28.28(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>216 (21600-1) (Cont'd)</u>	
Vitamin A Acid	
(a) For use in the production of food products for human consumption	29.38(4)(a)
(b) For other uses	+29.38(4)(b)
Vitamin B ₃ (N-(alpha, gamma-dehydroxy-beta- dimethylbutynyl)-beta-alanine; pantothenic acid)	29.38(5)
Xylenesulphonic acids	29.03(1)

Imports under this item are estimated to have been over \$2.5 million in 1965, almost equally from B.P. and M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
Ex. 216 (21600-2)			
Chromium trioxide, dihydroxydiphenol sulphone, monobutyl phenylphenol sodium monosulfonate, phenol sulphonic acid and stannous sulphate, imported for use exclusively in the production of tin plate:	Free		Free 25
Chromium trioxide (chromic acid; chromic anhydride)		28.21(3)	10 15 25
Dihydroxydiphenyl sulphone		29.31(1)	Free 15 25
Monobutyl phenylphenol sodium monosulphonate		29.07(1)	Free 15 25
Phenolsulphonic acid (sulphocarbollic acid)		29.07(4)	10 15 25
Stannous sulphate		28.38(1)	Free 15 25

Imports under this item are estimated to have been about a quarter of a million dollars in 1965, about two-thirds from B.P. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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Ex. 216 (21600-3)

Formic acid:

Free 12½ 25

Formic acid (hydrogen carboxylic acid)

29.14(33)
Free 12½ 25

Imports under this item are reported to have been about \$176,000 in 1964 and about \$198,000 in 1965, practically all from M.F.N. countries.

216b (21605-1)

Phosphoric acid:

Free 25 25

Metaphosphoric acid (phosphoric acid
glacial)
Orthophosphoric acid (common phosphoric
acid)
Pyrophosphoric acid

28.10
Free 15 25

28.10
Free 15 25
28.10
Free 15 25

Imports under this item are estimated to have been small in 1964 and 1965.

216c (21610-1)

Nitric acid, not including glass containers,
when in packages weighing not more than
100 pounds:

Free 20 22½

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
216c (21610-1) (Cont'd)			
Nitric acid (aqua fortis; azotic acid; engraver's acid) in packages weighing not more than 100 pounds		28.09	10 15 25
<u>Imports</u> under this item are estimated to have been negligible in 1964 and in 1965.			
216d (21615-1)			
Diacetoneketogulonic acid for use in the manufacture of ascorbic acid:	Free Free 25		
Diacetoneketogulonic acid		29.16(12)	Free Free 25
<u>Imports</u> under this item are estimated to have been less than \$100,000 in 1965, all from M.F.N. countries.			
*216e (21620-1)			
Cadmium oxide, pelargonic acid, triphenyl phosphite and octoic acid for use in the manufacture of stabilizers for vinyl synthetic resins:	Free Free 25		
Cadmium oxide (anhydrous cadmium oxide)		28.28(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*216e (21620-1) (Cont'd)</u>			
n-Octoic acid (caprylic acid; octanoic acid; octylic acid)		29.14(1)	Free 15 25
Pelargonic acid (n-nonanoic acid; n-nononic acid; n-nonylic acid)		29.14(1)	Free 15 25
Triphenyl phosphite		29.21	Free 15 25

Imports under this item are estimated to have been about \$50,000 in 1965, all from M.F.N. countries.

*216f (21625-1)

Monocalcium citrate in a water slurry for use in the manufacture of citric acid and salts thereof

Monocalcium citrate

Free	Free	25	
			29.16(22)
			Free Free 25

Imports under this item are estimated to have been less than \$1.5 million in 1965, all from M.F.N. countries.

216i (21635-1)

Nicotinic acid when imported for use in the manufacture of nicotinic acid amide and when imported for use in the manufacture of diethylamide of nicotinic acid:

Free	Free	25
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<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>216i (21635-1) (Cont'd)</u>			
Niacin (see nicotinic acid)			
Nicotinic acid (Niacin; pro PP factor; pyridene-beta-carboxylic acid)		29.38(1)	
Pro PP factor (see nicotinic acid)		Free	15 25
<u>There are no known imports under this item.</u>			
<u>217 (21700-1)</u>			
Sulphuric and muriatic acid, n.o.p.: per one hundred pounds	17½¢ 22½¢ 25¢		
Hydrochloric acid (chlorhydric acid; hydrogen chloride; muriatic acid), in packages weighing more than 100 pounds		28.06(1)	Free 15 25
Sulphuric acid (battery acid; dipping acid; hydrogen sulphate; oil of vitriol), and oleum (fuming sulphuric acid), when in packages weighing more than 100 pounds		28.08	10 15 25

Imports under this item are estimated to have been less than \$150,000 in 1965, all from M.F.N. countries. The specific rate of duty appears to have been equivalent to about 15 per cent in 1964 and 12 per cent in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>217a (21705-1)</u>			
Sulphuric and muriatic acids, not including glass containers, when in packages weighing not more than 100 pounds: per one hundred pounds	Free 22½¢ 25¢		
Hydrochloric acid (chlorhydric acid; hydrogen chloride; muriatic acid), in packages weighing not more than 100 pounds		28.06(1)	Free 15 25
Sulphuric acid (battery acid; dipping acid; hydrogen sulphate; oil of vitriol), and oleum (fuming sulphuric acid), in packages weighing not more than 100 pounds		28.08	10 15 25
<u>Imports under this item are estimated to have been negligible in 1964 and 1965.</u>			
<u>218 (21800-1)</u>			
Acid phosphate, not medicinal:	Free 25 25		
Acid phosphates, mixed, other than surface active agents		38.19(1)	10 15 25
Ammonium phosphate, dibasic (ammonium phosphate secondary; diammonium hydrogen phosphate; diammonium orthophosphate; diammonium phosphate), containing, in the dry state, less than 6 mg. of arsenic per kg.: other than pharmacopoeial grade		28.40(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
218 (21800-1) (Cont'd)			
Ammonium phosphates containing, in the dry state, not less than 6 mg. of arsenic per kg.		31.00(2)	Free Free Free
Ammonium phosphate, monobasic (ammonium acid phosphate; ammonium biphosphate; ammonium dihydrogen orthophosphate; ammonium phosphate primary; monoammonium orthophosphate; monoammonium phosphate), containing, in the dry state, less than 6 mg. of arsenic per kg., other than pharmacopoeial grade		28.40(1)	Free 15 25
Ammonium sodium hydrogen orthophosphate (ammonium sodium orthophosphate)		28.48(1)	Free 15 25
Amyl acid phosphates		29.19(2)	10 15 25
Barium phosphate, dibasic		28.40(1)	Free 15 25
n-Butyl acid phosphates		29.19(3)	10 15 25
Calcium hydrogen phosphate (calcium phosphate, dibasic) containing, in the dry state, not less than 0.2 per cent by weight of fluorine		31.00(2)	Free Free Free
Calcium phosphate, dibasic (bicalcic phosphate; calcium hydrogen orthophosphate; calcium hydrogen phosphate; calcium phosphate secondary; dicalcium orthophosphate; dicalcium phosphate) containing, in the dry state, less than 0.2 per cent by weight of fluorine		28.40(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
218 (21800-1) (Cont'd)			
Calcium phosphate, monobasic (acid phosphate of lime, calcium biphosphate; calcium tetrahydrogen diorthophosphate; monocalcium phosphate), containing, in the dry state, less than 0.2 per cent by weight of fluorine, not medicinal		28.40(1)	Free 15 25
Dodecyl acid phosphates		29.19(4)	10 15 25
Ethyl acid phosphates		29.19(5)	10 15 25
Heptadecyl acid phosphates		29.19(6)	10 15 25
Hexadecyl acid phosphates		29.19(7)	10 15 25
Isobutyl acid phosphates		29.19(8)	10 15 25
Inositolhexaphosphates		29.19(1)	Free 15 25
Inositolhexaphosphoric acid (see phytic acid)			
Magnesium phosphate, dibasic (dimagnesium orthophosphate; dimagnesium phosphate; magnesium hydrogen orthophosphate; magnesium hydrogen phosphate)		28.40(1)	Free 15 25
Magnesium phosphate monobasic (magnesium biphosphate; magnesium phosphate acid; magnesium tetrahydrogen phosphate)		28.40(1)	Free 15 25
Manganous phosphate acid (manganese hydrogen phosphate; manganese phosphate; manganous phosphate secondary)		28.40(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>		
<u>218 (21800-1) (Cont'd)</u>					
Nonyl acid phosphates		29.19(9)	10	15	25
Octyl acid phosphates (2-ethylhexyl acid phosphates)		29.19(10)	10	15	25
Phytic acid (inositolhexaphosphoric acid)		29.19(1)	Free	15	25
Potassium phosphate, dibasic (dipotassium hydrogen orthophosphate; dipotassium orthophosphate; potassium hydrogen phosphate; potassium monophosphate)		28.40(1)	Free	15	25
Potassium phosphate, monobasic (potassium acid phosphate; potassium bihydrogen phosphate; potassium biphosphate; potassium dihydrogen orthophosphate; potassium diphosphate)		28.40(1)	Free	15	25
Propyl acid phosphates		29.19(11)	10	15	25
Sodium phosphate dibasic (disodium hydrogen orthophosphate; disodium orthophosphate; disodium phosphate; hydrodisodium phosphate; dibasic phosphate of soda), non-medicinal grades		28.40(1)	Free	15	25
Sodium phosphate monobasic (sodium acid phosphate; sodium biphosphate; sodium dihydrogen orthophosphate; sodium orthophosphate monobasic; monosodium phosphate), non-medicinal grades		28.40(1)	Free	15	25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
218 (21800-1) (Cont'd			
Sodium pyrophosphate, acid (disodium pyrophosphate; disodium dihydrogen pyrophosphate; sodium acid pyrophosphate)		28.40(1)	Free 15 25
Superphosphates (single, double or triple)		31.00(2)	Free 15 Free 25
Triethanolamine phosphate		29.23(1)	Free 15

Any product of this item, when for use as a fertilizer, would be in Recommended Item 31.00(1).

Imports under this item are estimated to have been less than half a million dollars in 1965 and about a quarter of a million dollars in 1964, in 1965 they were all from M.F.N. countries.

219(i) (21905-1)

Solutions of peroxides of hydrogen,
n.o.p.:

12½ 22½ 25

Hydrogen peroxide, solutions, containing less than 25 per cent by weight of hydrogen peroxide

28.54 Free 15 25

Imports under this item are estimated to have been less than \$50,000 in 1964 and in 1965; in 1965 they were all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>219(ii) (21910-1)</u>			
Solutions of hydrogen peroxide containing twenty-five per centum or more by weight of hydrogen peroxide:	Free 22½ 25		
Hydrogen peroxide, solutions, containing 25 per cent or more by weight of hydrogen peroxide		28.54	Free 15 25
<u>Imports under this item are estimated to have been negligible in 1964 and about half a million dollars in 1965; about 90 per cent was from M.F.N. countries.</u>			
<u>219a(1) (21915-1)</u>			
Non-alcoholic chemicals for disinfecting, or for preventing, destroying, repelling or mitigating fungi, weeds, insects, rodents, or other plant or animal pests, n.o.p.; non-alcoholic preparations compounded exclusively for disinfecting or for preventing, destroying, repelling or mitigating fungi, weeds, insects, rodents, or other plant or animal pests, n.o.p.:- (1) When in packages not exceeding three pounds each, gross weight	Free 12½ 25		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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219a(1) (21915-1) (Cont'd)

For the list of products under this tariff item, see Recommended Item 38.11, Vol. 2, of the Board's report.
Imports under this item are estimated to have been less than half a million dollars in 1964 and in 1965, nearly all from M.F.N. countries.

219a(2) (21916-1)

Non-alcoholic chemicals for disinfecting, or for preventing, destroying, repelling or mitigating fungi, weeds, insects, rodents, or other plant or animal pests, n.o.p.; non-alcoholic preparations compounded exclusively for disinfecting or for preventing, destroying, repelling or mitigating fungi, weeds, insects, rodents, or other plant or animal pests, n.o.p.:-(2) Otherwise

Free Free 15

For the list of products under this tariff item, see Recommended Item 38.11, Vol. 2, of the Board's report.
Imports under this item are estimated to have been over \$9 million in 1965, about 90 per cent from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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219b (21920-1)

Formaldehyde, containing not more than fifteen per centum of alcohol:

Free	Free	Free
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Formaldehyde

38.11

Free	Free	Free
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Formaldehyde (formic aldehyde; methanal; oxymethylene)

29.11(8)

5	10	20
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Imports under this item are estimated to have been less than \$50,000 in 1965, all from M.F.N. countries.

219d(1) (21925-1)

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Chloroform and ethyl chloride for anaesthetic purposes:

Free	Free	Free
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Chloroform (trichloromethane)

29.02(1)

Free	15	25
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Ethyl chloride (chloroethane)

29.02(8)

10	15	25
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Imports under this item are estimated to have been small in 1965, all from M.F.N. countries.

219d(2) (21930-1)

Sulphuric ether; chloroform, n.o.p.; preparations of vinyl ether for anaesthetic purposes:

Free	20	25
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<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>219d(2) (21930-1) (Cont'd)</u>			
Chloroform (trichloromethane)		29.02(1)	Free 15 25
Ether (diethyl ether; diethyl oxide; ethyl ether; ethyl oxide; sulphuric ether)		29.08(13)	10 15 25
Vinyl ether preparations		38.19(1)	10 15 25

Imports under this item are estimated to have been about half a million dollars in 1965, all from M.F.N. countries.

219e (21935-1)

Chloropicrin, ethylene oxide, methyl bromide, methyl formate, cyanides, carbon bisulphide, acrylonitrile, or mixtures containing any of these, for use in combatting destructive insects and pests:

Free Free Free

Acrylonitrile (propenenitrile; vinyl cyanide)		38.11	Free Free Free
Bromomethane (methyl bromide)		38.11	Free Free Free
Calcium cyanide (black cyanide) (see cyanides)			
Carbon disulphide (carbon bisulphide)		38.11	Free Free Free
Chloropicrin (see trichloronitromethane)			
Cupric cyanide (copper cyanide) (see cyanides)			
Cuprous cyanide (see cyanides)			
Cyanides			
Ethylene oxide (epoxyethane)		38.11	Free Free Free
		38.11	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
219e (21935-1) (Cont'd)			
Hydrogen cyanide (formonitrile; hydro-cyanic acid; prussic acid) (see cyanides)			
Mercuric cyanide (mercury cyanide) (see cyanides)			
Methyl bromide (see bromomethane)			
Methyl formate		38.11	Free Free Free
Sodium cyanide (white cyanide) (see cyanides)			
Trichloronitromethane (chloropicrin; chlorpicrin; nitrochloromethane; nitrochloroform)		38.11	Free Free Free
Zinc cyanide (see cyanides)			

Mixtures containing any of the foregoing also would be in Recommended Item 38.11.

Imports under this item are estimated to have been substantially less than a quarter of a million dollars in 1965, all from M.F.N. countries.

Existing Item220a(i) (22005-1)

Chemical preparations, compounded
of more than one substance, n.o.p.:—
When dry, or liquid containing not
more than two and one-half per
centum of proof spirit

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
15 p.c.	20 p.c.	25 p.c.

Recommended Item

Except for (+) items,
recommended rates are:
B.P. M.F.N. General
10 p.c. 15 p.c. 25 p.c.

For (+) items, see rates
listed in Appendix I.

Additives for mineral oils, prepared, other than anti-knock preparations in which tetraethyl lead or tetra- methyl lead or a mixture of both is the preponderant constituent by weight	38.14(1)
Aerosol propellant preparations	38.19(1)
Aluminum paste	32.09(1)
Ammonium nitrate, coated	+31.00(2)
Anti-foam preparations	38.19(1)
Anti-freezing compounds, other than ethylene glycol based	+38.19(3)
Anti-knock preparations of tetraethyl lead or tetramethyl lead in which a mixture of tetraethyl lead and tetra- methyl lead is the preponderant constituent by weight	+38.14(2)
Anti-slip transmission belt preparations	38.19(1)
Artificial bates, compounded of more than one substance	+32.03(1)
Barium-cadmium complex for manufacture of steel	+R-8 208g
Barium-silicon complex for manufacture of steel	+R-8 208g
Black polyethylene masterbatch	+32.07(3)
Blended alkalies, when not containing soaps or abrasives	34.02
Bolt and nut release preparations	38.19(1)
Brewers' pitch	+38.10
Bronze paste	32.09(1)
Calcium cyanamide (cyanamid, lime nitrogen) containing, in the dry state, not more than 25 per cent by weight of nitrogen, treated with oil	+31.00(2)
Calcium-magnesium complex for manufacture of steel	+R-8 208g
Calcium-silicon complex for manufacture of steel	+R-8 208g
Carbon paper ink, liquefied and applied to produce carbon paper	32.13
Catalase	29.40(2)
Catalyst preparations	38.19(1)

Existing Item	Recommended Item
<u>220a(i) (22005-1) (Cont'd)</u>	
Caulking pitch	+38.10
Ceramic colours, other than prepared stains or finely divided metals or compounds of metals, liquid	32.08
Chlorophosphates	+28.48(1)
Cobblers' wax	+38.10
Colloidal suspensions of precious metals: gold, iridium, osmium, palladium, platinum, rhodium, ruthenium and silver, when containing protective colloids such as gelatin, casein or fish glue	+28.49(4)
Colour lakes, liquid	32.06
Composite solvents and thinners for varnishes and similar products	38.18
Cores or coatings for welding rods and electrodes	38.13
Corrosion, rust, acid and salt inhibitors	38.19(1)
Culture media for development of micro-organisms, prepared	+38.16
Cyclohexanol-cyclohexanone mixtures	38.19(1)
Dithionites, other than sodium dithionite and zinc dithionite, when stabilized with organic substances	+28.36(1)
Driers, not liquid	32.11
Dry bleach and oxygen bleach	38.19(1)
Flash light materials which are mixtures of two or more substances	37.08
Flotation preparations	38.19(1)
Fluxes and other auxiliary preparations for soldering, brazing or welding	38.13
Food curing salt preparations	38.19(1)
Formulated fertilizers that contain a pest control product	+31.00(1)
Foundry core binders based on natural resinous products	+38.10
Foundry core binders not based on natural resinous products	38.19(1)
Glazings and dressings, prepared, of a kind used in the textile, paper, leather or like industries	38.12(1)
Hardening agents, compounded	38.19(1)
Hydraulic transmission fluid preparations	38.19(1)
Intermixtures containing one or more of the products of Rec. Item 29.38(3), (4), (5), (6), (7), (8) or (9)	29.38(2)
Intermixtures, containing principally enzymes	29.40(1)
Invisible ink	32.13
Mannitol hexanitrate (hexanitromannite; HNM; nitromannite; nitromannitol), stabilized with lactose	29.18(4)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>220a(i) (22005-1) (Cont'd)</u>	
Masterbatches made up of any of the colouring materials of Rec. Item 32.05	+32.05(1)
Mastics based on sodium silicate, zinc oxychloride, magnesium oxy- chloride, sulphur, zinc oxide and glycerol, not containing synthetic resin, excluding mastics based on rubber	32.12(1)
Metallic carbide preparations, non- agglomerated	38.19(1)
Metal processing, rolling and cutting oils and drawing compounds	38.19(1)
Mixtures containing fissile or radio- active chemical elements and isotopes used solely for their radio-active properties	+28.50
Mixtures of primary aliphatic alcohols	+15.10(3)
Molecular sieves	38.19(1)
Mordants, prepared	+38.12(3)
Oils, cutting	38.19(1)
Paint extenders, compounded	38.19(1)
Paint remover soaps	38.19(1)
Pancreatin, stabilized	29.40(4)
Pentaerythritol tetranitrate (PETN; penthrite; tetranitropentaerythritol), stabilized with lactose	29.18(7)
Pepsin (pepsinum), stabilized	29.40(6)
Photographic preparations which are mixtures of two or more substances	37.08
Pickling preparations (for example, inhibited muriatic acid) for metal surfaces	38.13
Pigment dispersions	32.09(1)
Pigment dyestuffs, with other ingredients, for colouring: liquid	32.05(4)
Pigments in turpentine or white spirits	32.09(1)
Plasters specially prepared for dental uses	38.19(1)
Plasticizer preparations	38.19(1)
Polyethylene glycols, mixed, with very low molecular weight	38.19(1)
Preparations and charges for fire- extinguishers, not including charged fire-extinguishing grenades	38.17
Preparations for manufacture of certain ceramic articles	38.19(1)
Preparations for steel manufacture	38.19(1)
Preparations used mainly for clarifying wines and other fermented beverages	38.19(1)
Resin mastics and cements, sealing compounds, sealers and sealants containing natural resin, other than sealing wax	32.12(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>220a(i) (22005-1) (Cont'd)</u>	
Rubber accelerators, prepared	38.15
Rubber antioxidant preparations	38.19(1)
Salt, denatured	+25.01(1)
Seculate anti-condensation compound	38.19(1)
Soldering, brazing or welding powders and pastes	38.13
Stencil ink for use as a solid colour coating on containers	32.13
Sulphonitric acids	28.09
Sulphur, colloidal	+28.02
Unmounted cut elements of piezo- electric material	38.19(1)
Urea containing, in the dry state, not more than 45 per cent by weight of nitrogen, coated	+31.00(2)
Vinyl resin stabilizer preparations other than tin based	38.19(1)
Waxes containing synthetic wax	+R-39(1)
Wax, synthetic	+R-39(1)

Products of this item not more specifically provided for in the Recommended Schedule would be in Recommended Item 38.19(1).

Any product of this item for use as a fertilizer would be in Recommended Item 31.00(1).

Any product of this item for the uses mentioned in Recommended Items R-31 663b, R-35 791 or 38.11 would be in those items.

Imports under this item are estimated to have been over \$40 million in 1964 and in 1965; in 1965 they were mostly from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>Ex. 220a(i) (22005-2)</u>			
Chemical preparations, compounded of more than one substance, n.o.p.:- Hydrolized animal matter for use as retarder for calcined gypsum:	10 10 25		
Hydrolized animal matter for use as retarder		38.19(8)	10 10 25
<u>Imports</u> under this item are estimated to have been about three quarters of a million dollars in 1965, almost all from M.F.N. countries.			
<u>220a(ii) (22006-1)</u>			
Chemical preparations, compounded of more than one substance, n.o.p.:- All others (other than those provided for in item 220a(i)):	25 25 30		
Any article in this item containing more than forty per cent. of proof spirit shall be rated for duty at per gallon and	\$2.00 \$2.00 \$3.00 20 20 30		
Anti-freezing compounds, other than ethylene glycol based Anti-slip transmission belt preparations		38.19(3) 38.19(1)	15 15 25 10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>		
<u>220a(ii) (22006-1) (Cont'd)</u>					
Bolt and nut release preparations		38.19(1)	10	15	25
Composite solvents and thinners for varnishes and similar products		38.18	10	15	25
Formaldehyde (formic aldehyde; methanal; oxymethylene)		29.11(8)	5	10	20
Foundry core binders not based on natural resinous products		38.19(1)	10	15	25
Hardening agents, compounded		38.19(1)	10	15	25
Hydraulic transmission fluid preparations		38.19(1)	10	15	25
Masterbatches made up of any of the colouring materials of Rec. Item 32.05		32.05(1)	Free	Free	10
Paint extenders, compounded		38.19(1)	10	15	25
Photographic preparations which are mixtures of two or more substances		37.08	10	15	25
Pigment dyestuffs, with or without other ingredients, for colouring: liquid		32.05(4)	10	15	25
Preparations for manufacture of certain ceramic articles		38.19(1)	10	15	25
Preparations used mainly for clarifying wines and other fermented beverages		38.19(1)	10	15	25

Products of this item not more specifically provided for in the Recommended Schedule would be in Recommended Item 38.19(1).

Any product of this item for use as a fertilizer would be in Recommended Item 31.00(1).

Any product of this item for the uses mentioned in Recommended Item R-31 663b, R-35 791 or 38.11 would be in those items.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>220a(ii) (22006-1) (Cont'd)</u>			
<u>Imports</u> under this item are estimated to have been over \$300,000 in 1964 and nearly one million in 1965, in 1965 they were virtually all from M.F.N. countries. The combined rate of duty under the item in 1965 is estimated to have been equivalent to about 30 per cent ad valorem.			
<u>220c (22015-1)</u>			
Gasoline anti-oxidants for use in the production of gasoline:	15	20	25
Butylated hydroxytoluene (2,6-di-tertiary-butyl-4-methylphenol; di-tertiary-Butylpara-cresol)		29.06(3)	10 15 25
Gasoline anti-oxidants for use in the production of gasoline		38.14(1)	10 15 25
Naphthols (hydroxynaphthalenes)		29.06(1)	Free 15 25
<u>Imports</u> under this item are reported to have been about \$325,000 in 1964 and about \$143,000 in 1965. In 1964, most came from M.F.N. countries but in 1965 imports were equally from B.P. and M.F.N. countries.			
<u>220d (22020-1)</u>			
Chemical preparations, dry, compounded of more than one substance, when imported by manufacturers of fluorescent lamps or			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
220d (22020-1) (Cont'd)			
electronic tubes for use exclusively in coating the inside of fluorescent lamps or electronic tubes, in their own factories:	Free 5 25		
Chemical preparations, dry, compounded of more than one substance, for use exclusively in coating the inside of fluorescent lamps or electronic tubes		32.05(1)	Free 10
Zinc-beryllium silicate activated by manganese		32.07(4)	Free 10
Zinc sulphate activated by silver or copper		32.07(4)	Free 10
Zinc sulphide activated by silver or copper		32.07(4)	Free 10
<u>Imports</u> under this item are estimated to have been nearly \$1.5 million in 1964 and in 1965; they were all from M.F.N. countries in 1965.			
220e (22025-1)			
Materials, of a class or kind not made in Canada, for use in the manufacture of additives for heating, lubricating and fuel oils:	Free 5 25		
Additives for mineral oils, prepared		38.14(1)	10 15 25
Barium hydroxides		28.18(1)	Free 15 25
Barium phenate		29.06(1)	Free 15 25
Calcium phenate		29.06(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>220e (22025-1) (Cont'd)</u>			
p-Cresol(para-cresylic acid; 4-methyl-phenol; para-oxy-toluene)		29.06(1)	Free 15 25
Heptylenes (heptenes)		29.01(1)	Free 15 25
Iron carbonyl (iron pentacarbonyl)		29.34(1)	Free 15 25
Lithium hydroxides		28.28(1)	Free 15 25
Magnesium hydroxide (magnesium hydrate), other than milk of magnesia		28.18(1)	Free 15 25
Molybdenite powder, lubricant		R-40B	Free 15 25
Molybdenum disulphide (molybdenum sulphide; molybdic sulphide)		28.35(1)	Free 15 25
Oleyl alcohol (octadecenol)		29.04(1)	Free 15 25
Phosphorus pentasulphide (phosphoric sulphide; phosphorus persulphide; thiophosphoric anhydride)		28.15(2)	Free 5 20
Pinenes		29.01(16)	Free Free Free
Preparations for the manufacture of oil additives			
Tricresyl phosphate (TCP; tritolyl phosphate)		38.19(1)	10 15 25
Tri-o-cresyl phosphate (see tricresyl phosphate)		29.19(1)	Free 15 25
Tritolyl phosphate (see tricresyl phosphate)			
Trixylenyl phosphate (tridimethylphenyl phosphate; trixylyl phosphate)		29.19(1)	Free 15 25
Trixylyl phosphate (see trixylenyl phosphate)			
Zinc thiophosphate		28.48(1)	Free 15 25

Any other product admissible under this item would be classified in the appropriate Recommended Item bearing a four digit number.

Imports under this item are estimated to have been about \$7 million in 1964 and over \$8.5 million in 1965, virtually all from M.F.N. countries in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>220f (22030-1) (Unchanged)</u>			
Askarels (non-flammable liquids) for use in the manufacture of electrical apparatus:	Free 5 25		
<u>Imports under this item are estimated to have been a quarter of a million dollars in 1964 and nearly half a million dollars in 1965, when they were all from M.F.N. countries.</u>			
<u>220g (Cancelled)</u>			
Expired, 31/1/64, D47-441			
<u>*220h (22040-1)</u>			
Mixtures of formaldehyde, methyl alcohol and the hemi-acetal of methyl alcohol for use in Canadian manufactures:	20 20 30	38.19(1)	10 15 25
<u>There are no known imports under this item.</u>			
<u>*224 (22400-1)</u>			
Sealing wax:	15 22½ 25		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
*224 (22400-1) (Cont'd)			
Sealing wax (including bottle sealing wax) in sticks, cakes or similar forms		R-16 *224	15 22½ 25
Sealing wax, other than in sticks, cakes or similar forms		32.12(3)	15 22½ 25
<u>Imports under this item are estimated to have been negligible in 1964 and in 1965.</u>			
*228(ii) (22800-3)			
Soap powders, powdered soap, mineral soap, and soap, n.o.p.:	15 20 32½		
Ammonium palmitate		29.14(11)	15 20 32½
Blended alkalis, when containing soaps but no abrasive		34.02	10 15 25
Potassium palmitate		29.14(53)	15 20 32½
Sodium palmitate		29.14(59)	15 20 32½
Sodium stearate		29.14(61)	15 20 32½
Washing and cleaning preparations - containing surface-active agents and soap; when containing no abrasive		34.02	10 15 25

Products of this item provided for in different paragraphs of Recommended Item 29.14 would be relocated for completeness of the Nomenclature. Apart from products shown above, the scope of tariff item *228(ii) would remain unchanged.

Imports under this item are estimated to have been about half a million dollars in 1965, about 85 per cent from M.F.N. countries. The proportion of imports that would be transferred from item *228(ii) is believed to be small.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*232 (23200-1)</u>			
Glue, n.o.p.:	15		
and per pound	22½		
	2¢		
Cellulose plastic or regenerated cellulose glues	25		
	5¢		
		39.03(e)	15
			17½
			25

Apart from the above-named products, the scope of item *232 would remain unaltered.

Imports under this item are estimated to have been less than a half a million dollars in 1965, about 70 per cent from B.P. countries. The proportion that would be transferred to Rec. Item 39.03(e) cannot be estimated but would be less than 25 per cent of the total.

237 (23700-1)

Isotopes, artificially produced:

Actinium	28.50	Free	Free	Free
Actinium 228 (mesothorium II)	28.50	Free	Free	Free
Americium	28.50	Free	Free	Free
Astatine	28.50	Free	Free	Free
Berkelium	28.50	Free	Free	Free
Bismuth 210 (radium E)	28.50	Free	Free	Free
Caesium 137	28.50	Free	Free	Free
Calcium 45	28.50	Free	Free	Free
Californium	28.50	Free	Free	Free
Carbon 13, enriched	28.51	Free	Free	Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
237 (23700-1) (Cont'd)			
Carbon 14		28.50	Free
Chlorine 36		28.50	Free
Chromium 51		28.50	Free
Cobalt 60		28.50	Free
Curium		28.50	Free
Einsteinium		28.50	Free
Fermium		28.50	Free
Francium		28.50	Free
Gold 198		28.50	Free
Hydrogen 3 (tritium)		28.50	Free
Iodine 131		28.50	Free
Iodine 132		28.50	Free
Iron 59		28.50	Free
Iridium 192		28.50	Free
Krypton 85		28.50	Free
Lawrencium		28.50	Free
Mendelevium		28.50	Free
Neptunium		28.50	Free
Nobelium		28.50	Free
Palladium 109		28.50	Free
Phosphorus 32		28.50	Free
Plutonium		28.50	Free
Plutonium 239		28.50	Free
Polonium		28.50	Free
Polonium 210		28.50	Free
Polonium 212 (thorium cl)		28.50	Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
237 (23700-1) (Cont'd)			
Potassium 40		28.50	Free
Potassium 42		28.50	Free
Promethium		28.50	Free
Protactinium		28.50	Free
Sodium 24		28.50	Free
Strontium 90		28.50	Free
Sulphur 35		28.50	Free
Sulphur 38		28.50	Free
Technetium		28.50	Free
Thulium 170		28.50	Free
Uranium 233		28.50	Free
Xenon 133		28.50	Free
Yttrium 90		28.50	Free

Imports under this item are estimated to have been less than \$200,000 in 1965, mostly from M.F.N. countries.

*237a (23705-1)

Deuterium oxide or heavy water;
 uranium in the form of pigs,
 ingots, billets or bars:

Free Free 25

Deuterium oxide (heavy water)
 Uranium 235
 Uranium depleted in U-235

28.51
 28.50
 R-34 68ld

Free Free
 Free Free
 Free Free 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
*237a (23705-1) (Cont'd)			
Uranium, natural		28.50	Free Free Free
<u>Imports under this item are estimated to have been more than \$7 million in 1965, virtually all from M.F.N. countries.</u>			
238 (23800-1)			
Activated carbon:	Free Free 25		
Carbon, activated		38.03	Free Free Free
<u>Imports under this item are reported to have been about one million dollars in 1964 and in 1965, practically all from M.F.N. countries.</u>			
239 (23900-1)			
Lamp black, carbon black, ivory black and bone black:	Free Free Free		
Acetylene black		28.03	Free Free Free
Anthracene black		28.03	Free Free Free
Bone black		38.02	Free Free Free
Carbon black		28.03	Free Free Free
Ivory black		38.02	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
239 (23900-1) (Cont'd)			
Lamp black		28.03	Free Free Free
<u>Imports under this item are estimated to have been over \$2 million in 1965, virtually all from M.F.N. countries.</u>			
240 (24000-1)			
Ultramarine blue, dry or in pulp; whiting or whitening; Paris white and gilders' whiting; blanc fixé; satin white:	Free 10 10		
Barium sulphate (blanc fixé)		28.38(6)	Free 10 15
Calcium carbonate, precipitated, other than pharmaceutical grade		28.42(1)	Free 15 25
Calcium sulphate, natural (satin white)		R-17 240	Free 10 10
Calcium sulphate (satin white), other than A.R. grade or precipitated (but not natural)		28.38(7)	Free Free Free
Paris white and gilders' whiting		R-17 240	Free 10 10
Ultramarine		32.07(8)	Free 10 15
Whiting or whitening		R-17 240	Free 10 10

Imports under this item are estimated to have been about half a million dollars in 1965, slightly more than in 1964; in 1965 about two-thirds of the imports were from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>241 (24100-1)</u>			
Litharge and mixtures or combinations of litharge with other materials, such mixtures or combinations to contain not less than 50 per centum by weight of litharge, when imported by manufacturers of electric storage batteries, for use exclusively in the manufacture of storage battery plates in their own factories:	Free	Free	Free
Lead oxide (litharge; massicot; lead monoxide)		28.27(1)	Free 15 25
Mixtures of litharge for manufacture of storage battery plates		38.19(1)	10 15 25

185

Imports under this item are estimated to have been about a quarter of a million dollars in 1965, all from M.F.N. countries.

241a (24105-1)

Litharge, n.o.p.:

Free 15 15

Lead oxide (litharge; massicot; lead monoxide)

28.27(1) Free 15 25

Imports under this item are estimated to have been nearly \$200,000 in 1965, about 60 per cent from B.P. countries.

Existing Item	Existing Rates	Recommended Items	Recommended Rates
242 (24200-1)			
Dry red lead; orange mineral; antimony oxide, titanium oxide, and zinc oxide such as zinc white and lithopone; white pigments containing not less than 14 per cent by weight of titanium dioxide:	Free 12½ 15		
Antimony oxides, natural		R-37(2)	Free 12½ 25
Antimony pentoxide (antimonic acid; antimonic anhydride; stibic anhydride)		28.28(2)	Free 12½ 25
Antimony tetroxide		28.28(2)	Free 12½ 25
Antimony trioxide (antimony bloom; antimony white; flowers of antimony)		28.28(2)	Free 12½ 25
Lead saline oxide (red lead; lead tetroxide; orange lead; orange mineral)		28.27(2)	Free 12½ 25
Lithopone		32.07(5)	Free 12½ 25
Titanium dioxide (titania; titanic acid anhydride; titanic anhydride; titanic oxide)		28.25	Free 12½ 25
Titanium whites, not including pure titanium dioxide		32.07(7)	Free 12½ 25
Zinc grey		32.07(9)	Free 12½ 25
Zinc oxide (chinese white; flowers of zinc; nil alba; philosopher's wool; zinc white, zinc grey)		28.19	Free 12½ 25
Zinc white		32.07(3A)	10 15 25

Imports under this item are estimated to have been more than \$2.5 million in 1964 and 1965; in 1965 about 12 per cent were from B.P. countries.

<u>Existing Item</u>	<u>Existing Rates</u>		<u>Recommended Items</u>	<u>Recommended Rates</u>	
<u>243 (24300-1)</u>	15	20	30		
Dry white lead:					
Basic lead silicate (white lead silicate)			32.07(3A)	10	15
Lead carbonate, basic			28.42(4)	10	15
Lead sulphate, basic (sublimed white lead; white lead sulphate)			28.38(1)	Free	15
					25
<u>Imports under this item are estimated to have been negligible in 1964 and in 1965.</u>					
<u>244 (24400-1)</u>					
White lead ground in oil:	20	25	37½	10	15
			32.09(1)		25
<u>There are no known imports under this item.</u>					
<u>245 (24500-1)</u>					
Ochres, ochrey earths, siennas and umbers:	5	12½	15		
Earth colours (ochres; ochrey earths; siennas; umbers), containing less than 70 per cent by weight of combined iron evaluated as Fe ₂ O ₃			25.09	Free	7½
					20

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>245 (24500-1) (Cont'd)</u>			
Iron oxides (earth colours) containing 70 per cent or more by weight of combined iron evaluated as Fe ₂ O ₃		28.23(1)	10 15 25
<u>Imports under this item are estimated to have been over \$50,000 in 1964 and in 1965; in 1965 about 20 per cent were from B.P. countries.</u>			
<u>246 (24600-1)</u>			
Oxides, fireproofs, rough stuff, fillers, laundry blueing, and colours, dry, n.o.p.:	12½ 17½ 22½		
Alkaline iron oxide		38.19(1)	10 15 25
Ammonium metavanadate (ammonium vanadate)		28.47(1)	Free 15 25
Ammonium molybdate		28.47(1)	Free 15 25
Barium chromate (baryta yellow; lemon chrome; Steinbuhl yellow; yellow ultramarine)		28.47(1)	Free 15 25
Barium manganate (Cassel green; manganese green)		28.47(1)	Free 15 25
Barium oxide (barium monoxide; barium protoxide; calcined baryta)		28.18(1)	Free 15 25
Barium titanate		28.47(1)	Free 15 25
Barium tungstate (barium white; barium wolframate; tungstate white; wolfram white)		28.47(1)	Free 15 25
Cadmium selenide		28.48(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>246 (24600-1)(Cont'd)</u>			
Cadmium oxide (anhydrous cadmium oxide)		28.28(1)	Free 15 25
Cadmium pigments		32.07(3A)	10 15 25
Cadmium sulphide (aurora yellow; orange cadmium; orient yellow)		28.35(1)	Free 15 25
Calcium chromate (golbin; Steinbuhl yellow; yellow ultramarine)		28.47(1)	Free 15 25
Calcium tungstate (calcium orthotungstate; calcium wolframate; calcium wolframate normal)		28.47(1)	Free 15 25
Chromic oxide (chromium oxide; chromium sesquioxide; green cinnabar), dry colour		28.21(2)	10 15 25
Chromium aluminate		28.47(1)	Free 15 25
Chromium hydroxides, dry colours		28.21(1)	Free 15 25
Chromium phosphate (chromic phosphate) as a dry colour		28.40(1)	Free 15 25
Chromium stannate		28.47(1)	Free 15 25
Chromium trioxide (chromic acid; chromic anhydride)		28.21(3)	10 15 25
Chromium tungstate		28.47(1)	Free 15 25
Cobalt acetate (cobaltous acetate)		29.14(1)	Free 15 25
Cobalt arsenates		28.41(1)	Free 15 25
Cobalt stannate		28.47(1)	Free 15 25
Cobalt zincate		28.47(1)	Free 15 25
Cobaltionitrites (nitrocobaltates)		28.48(1)	Free 15 25
Cobaltous aluminate (azure blue; cobalt ultramarine; King's blue; Leyden blue; Thénard's blue)		28.47(1)	Free 15 25
Cobaltous tungstate (cobalt tungstate; cobalt wolframate)		28.47(1)	Free 15 25
Coloured earths brightened with small quantities of synthetic organic dyestuffs		32.07(1)	Free 5 15

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>246 (24600-1) (Cont'd)</u>			
Colour lakes, dry		32.06	10 15 25
Colouring materials and dyeing extracts obtained from cochineal		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from kermes		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from lac dye		32.04(1)	Free Free Free
Colouring materials and dyeing extracts obtained from sepia		32.04(1)	Free Free Free
Copper ferrocyanide (cupric ferrocyanide)		28.43(1)	Free 15 25
Copper oxychloride		28.30(1)	Free 15 25
Copper stannate		28.47(1)	Free 15 25
Distempers consisting of colouring pigments and a binder		32.09(1)	10 15 25
Dry inorganic colours and pigments, other than for colouring of textiles		32.07(3A)	10 15 25
Dyes in forms or packings, of a kind sold by retail, normally consisting of colouring matter with other substances		32.09(1)	10 15 25
Earth colours (iron oxides) containing less than 70 per cent by weight of combined iron evaluated as Fe ₂ O ₃ , dry		25.09	Free 7½ 20
Ferric chromate (iron chromate)		28.47(1)	Free 15 25
Finely ground ores used as pigments		32.07(3A)	10 15 25
Glass colours, other than prepared stains or finely divided metals or compounds of metals, dry		32.08	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>246 (24600-1) (Cont'd)</u>			
Iron hydroxides			
Iron oxides (earth colours) containing 70 per cent or more by weight of combined iron evaluated as Fe ₂ O ₃		28.23(2)	Free 15 25
Iron zincate		28.23(1) 28.47(1)	10 15 25 Free 15 25
Lead aluminate		28.47(1)	Free 15 25
Lead antimonate (antimony yellow; Naples yellow)		28.47(1)	Free 15 25
Lead chromate		28.47(1)	Free 15 25
Lead molybdate		28.47(1)	Free 15 25
Lead titanate		28.47(1)	Free 15 25
Lead tungstate (lead wolframate)		28.47(1)	Free 15 25
Magnesium hydroxide (magnesium hydrate), other than milk of magnesia		28.18(1)	Free 15 25
Magnesium tungstate (magnesium wolframate)		28.47(1)	Free 15 25
Mercuric oxide		28.28(1)	Free 15 25
Milori green (English green)		32.07(3A)	10 15 25
Mineral blacks (excluding blacks of Rec. Items 25.09 and 28.03)		32.07(3A) 32.07(3A) 28.28(3) R-37(5)	10 15 25 10 15 25 10 15 25 10 15 25
Mineral blue			
Molybdenum dioxide			
Molybdenum oxides, natural			
Molybdenum trioxide (molybdic acid anhydride; molybdic oxide; molybdenum anhydride)		28.28(3)	10 15 25
Natural oxides, n.o.p.			
Nickelic oxide (black nickel; black nickel oxide; nickel peroxide; nickel sesquioxide)		28.28(1) R-37(1)	10 15 25 Free 10 25
Nickelous oxide, natural			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>246 (24600-1) (Cont'd)</u>			
Nickelous oxide (green nickel oxide; nickel oxide; nickel protoxide)		28.28(4)	10
Painters' fillings; dry		32.12(1)	15
Phthalocyanine pigment dyestuffs		32.05(2)	Free
Pigment dyestuffs, with or without other ingredients, for colouring, dry		32.05(4)	10
Potassium antimonate		28.47(1)	Free
Potassium cobaltinitrite (cobalt potassium nitrite; Fischer's yellow)		28.48(1)	Free
Prussian blue (Berlin blue)		32.07(3A)	10
Quinacridone pigment dyestuffs		32.05(3)	Free
Sodium metavanadate		28.47(1)	Free
Sodium selenites		28.48(1)	Free
Stamping foils		32.09(1)	10
Strontium chromate		28.47(1)	Free
Strontium hydroxide (strontium hydrate)		28.18(1)	Free
Strontium oxide		28.18(1)	Free
Turnbull's blue		32.07(3A)	10
Vanadium pentoxide (vanadic acid anhydride)		28.28(1)	Free
Vanadium tetroxide		28.28(1)	Free
Vanadium trioxide (vanadium sesquioxide)		28.28(1)	Free
Vandyke brown		32.07(1)	Free
Witherite, calcined		R-38	Free
Zinc green		32.07(3A)	10
Zinc chromate		28.47(1)	Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>246 (24600-1) (Cont'd)</u>			
Zirconates		28.47(1)	Free 15 25

Imports under this item are estimated to have been about \$6 million in 1965 and somewhat less in 1964; they were mostly from M.F.N. countries in 1965.

<u>246a (24605-1)</u>				193
Zirconium oxide:	Free	5	7½	
Zirconium oxides, natural				
Zirconium oxide (zirconia; zirconic anhydride; zirconium anhydride; zirconium dioxide)		R-37(8)	Free	5 15
		28.28(5)	Free	5 15

Imports under this item are estimated to have been less than a quarter of a million dollars in 1964 and in 1965, almost all from M.F.N. countries.

<u>246b (24610-1)</u>				
Stains and oxides, valued at not less than 20 cents per pound for use exclusively as colouring constituents in the manufacture of vitreous enamels and pottery glazes:	Free	20	22½	

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>246b (24610-1) (Cont'd)</u>			
Cadmium oxide (anhydrous cadmium oxide)		28.28(1)	Free 15 25
Cadmium sulphide (aurora yellow; orange cadmium; orient yellow)		28.35(1)	Free 15 25
Ceramic colours (being prepared stains) valued at not less than 20 cents per pound for the manufacture of vitreous enamels and pottery glazes		32.08	10 15 25
Iron oxides (earth colours), containing 70 per cent or more by weight of combined iron evaluated as Fe ₂ O ₃		28.23(1)	10 15 25
Natural oxides, n.o.p.		R-37(1)	Free 10 25
Nickelous oxide, natural		R-37(6)	10 15 25
Nickelous oxide (green nickel oxide; nickel oxide; nickel protoxide)		28.28(4)	10 15 25
Titanium dioxide (titania; titanic acid anhydride; titanic anhydride; titanic oxide)		28.25	Free 12½ 25
Uranium dioxide (uranium oxide; uranic oxide)		28.50	Free Free Free 25
		28.52(1)	Free 15 25
Uranium peroxide (uranium tetroxide; uranium oxide)		28.50	Free Free Free 25
		28.52(1)	Free 15 25
Uranium trioxide (uranium oxide)		28.50	Free Free Free 25
		28.52(1)	Free 15 25

Imports under this item are estimated to have been substantially less than a quarter of a million dollars in 1964 and nearly half a million dollars in 1965; in 1965 about 75 per cent were from B.P. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>	
<u>246c (24615-1)</u>				
Finely divided metals or compounds of metals whether dry, or suspended or dissolved in a liquid, for use exclusively in the manufacture of glass-ware and of tableware of china, porcelain or semi-porcelain:	Free Free 22½			
Barium nitrate		28.39(1)	Free 15	25
Bismuth subnitrate (basic bismuth nitrate; bismuth oxynitrate; flake white; magistery of bismuth; pearl white; Spanish white)		28.39(2) 28.28(1)	10 15 Free 15	25 25
Cadmium oxide (anhydrous cadmium oxide)		28.35(1)	Free 15	25
Cadmium sulphide (aurora yellow; orange cadmium; orient yellow)				
Ceric hydroxide (ceric oxide hydrated; cerium hydrate)		28.52(1)	Free 15	25
Ceric oxide (cerium dioxide; cerium oxide)		28.52(1)	Free 15	25
Cerous hydroxide (cerium hydrate)		28.52(1)	Free 15	25
Chromic oxide (chromium oxide; chromium sesquioxide; green cinnabar)		28.21(2)	10 15	25
Chromium hydroxides		28.21(1)	Free 15	25
Chromium trioxide (chromic acid; chromic anhydride)		28.21(3) 28.41(1)	10 15 Free 15	25 25
Cobalt arsenates				
Cobalt nitrate (cobaltous nitrate), A.R. grade		28.39(1)	Free 15	25
Cobalt nitrate (cobaltous nitrate), other than A.R. grade		28.39(3)	10 15	25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>246c (24615-1) (Cont'd)</u>			
Cobaltic oxide (cobalt black; cobalt III oxide)		28.24(2)	Free 10 20
Cobaltous oxide (cobalt monoxide)		28.24(2)	Free 10 20
Colloidal suspensions of precious metals: gold, iridium, osmium, palladium, platinum, rhodium, ruthenium and silver		28.49(4)	15 20 25
Copper arsenite (copper orthoarsenite; cupric arsenite; Scheele's green)		28.41(1)	Free 15 25
Copper fluoride (cupric fluoride)		28.29(1)	Free 15 25
Didymium chloride		28.52(1)	Free 15 25
Didymium fluoride		28.52(1)	Free 15 25
Didymium nitrate		28.52(1)	Free 15 25
Didymium oxide		28.52(1)	Free 15 25
Finely divided metals or compounds of metals suspended or dissolved in a liquid for the manufacture of glassware and of tableware of china, porcelain or semi-porcelain		32.08	10 15 25
Iron zincate		28.47(1)	Free 15 25
Manganese dioxide (battery manganese; manganese binoxide; manganese black; manganese peroxide)		28.22	Free Free Free
Manganese oxide (manganese protoxide; manganous oxide; manganese monoxide)		28.22	Free Free Free
Manganese III oxide (manganic oxide)		28.22	Free Free Free
Natural oxides, n.o.p.		R-37(1)	Free 10 25
Sodium fluorosilicate (sodium fluosilicate; sodium silicofluoride)		28.29(1)	Free 15 25
Stannic chloride (butter of tin; tin chloride; tin tetrachloride)		28.30(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>246c (24615-1) (Cont'd)</u>			
Uranium dioxide (uranium oxide; uranic oxide)		28.50 28.52(1)	Free Free 15 25
Uranium peroxide (uranium tetroxide; uranium oxide)		28.50 28.52(1)	Free Free 15 25
Uranium trioxide (uranium oxide)		28.50 28.52(1)	Free Free 15 25
Yttrium oxide (yttria)		28.52(1)	Free 15 25

Imports under this item are estimated to have been about half a million dollars in 1965, mostly from M.F.N. countries.

246d (24620-1) (Unchanged)

Colours or pigments for use in the manufacture of roofing granules: Free Free 22½

Imports under this item are estimated to have been small in 1965.

*246e (24625-1)

Daylight fluorescent pigments, dry, without admixture, for use in Canadian manufactures: Free Free 22½

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
*246e (24625-1) (Cont'd)			
Calcium tungstate and magnesium tungstate specially manufactured		32.07(4)	Free 10
Inorganic products containing radio-active salts		32.07(4)	Free 10
Synthetic organic luminophores, which may be synthetic resin plastic materials to which chemicals have been added		32.05(1)	Free 10
Zinc-beryllium silicate activated by manganese		32.07(4)	Free 10
Zinc sulphate activated by silver or copper		32.07(4)	Free 10
Zinc sulphide activated by silver or copper		32.07(4)	Free 10

Imports under this item are estimated to have been substantially less than a quarter of a million dollars in 1965, all from M.F.N. countries.

247 (24700-1)

Liquid fillers, anti-corrosive and anti-fouling paints, and ground and liquid paints, n.o.p.: 17½ 20 30

Artificial radio-active isotopes and compounds thereof used for clock and watch dials 28.50

Ceramic colours, other than prepared stains or finely divided metals or compounds of metals, liquid 32.08 10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>247 (24700-1) (Cont'd)</u>			
Flushed colours			
Painters' fillings; liquid		32.09(1)	10 15 25
Paints, non-alcoholic		32.12(1)	10 15 25
Pearl essence, generally, when non-alcoholic		32.09(1)	10 15 25
Pigment dispersions		32.09(2)	Free 10
Pigments, other than white lead, ground in oil		32.09(1)	10 15 25
Prepared water pigments		32.09(1)	10 15 25
Stencil ink in aerosol containers to mark containers with the aid of stencils		32.09(1)	10 15 25
White ink for use in identifying conductors on cables, not used with printing machines but just dipped		32.13	10 15 25
		32.13	10 15 25
199			
<u>Imports under this item are estimated to have been about \$3.5 million in 1964 and over \$4.5 million in 1965 when they were mostly from M.F.N. countries.</u>			
<u>247a(1) (24705-1)</u>			
Artists' and school children's colours; fitted boxes containing the same:	Free 15 30		
Artists' and school children's oil colours			
Fitted boxes containing artists' and school children's oil or water colours		32.10(1)	Free 15 25
		32.10(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>247a(1) (24705-1) (Cont'd)</u>			
Signboard painters' oil colours		32.10(1)	Free 15 25
Water colours, in liquid or powder form, in jars, bottles or tins		32.10(2)	10 15 25
<u>Imports under this item are reported to have been about \$1.2 million in 1964 and about \$1.3 million in 1965; in each of these years one-third of the imports were from B.P. countries.</u>			
<u>247b (24720-1)</u>			
Pearl essence, when imported by manufacturers of imitation pearls, for use only in the manufacture of such articles in their own factories:	Free Free 30		
Pearl essence for the manufacture of imitation pearls		32.09(2)	Free Free 10
<u>Imports under this item are estimated to have been negligible in 1965.</u>			
<u>248 (24800-1)</u>			
Paints and colours, ground in spirits, and all spirit varnishes and lacquers: per gallon	75¢ 85¢ \$1.25		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>248 (24800-1) (Cont'd)</u>			
Glazings and dressings, prepared, of a kind used in the textile, paper, leather or like industries		38.12(1)	10 15 25
Meat printing ink		32.13	10 15 25
Paints, varnishes and lacquers, alcoholic		32.09(1)	10 15 25
Pearl essence, when alcoholic		32.09(2)	Free Free 10
Pigments ground in alcohol		32.09(1)	10 15 25
Solutions (other than collodions) of esters or ethers of cellulose in volatile organic solvents, when the weight of the solvent exceeds 60 per cent of the weight of the solution		32.09(1)	10 15 25
Solutions of synthetic resin in volatile organic solvents, when the weight of the solvent exceeds 60 per cent of the weight of the solution		32.09(1)	10 15 25

201

Imports under this item are estimated to have been over half a million dollars in 1964 and nearly one million in 1965 when practically all imports were from M.F.N. countries. The specific rate of duty appears to have been equivalent to about 13 per cent in 1964 and 15 per cent in 1965.

<u>249 (24900-1)</u>				
Varnishes, lacquers, japans, japan driers, liquid driers, and oil finish, n.o.p.:				
per gallon	15¢	15¢	20¢	
and	5	15	30	

Existing Item	Existing Rates	Recommended Items	Recommended Rates		
249 (24900-1) (Cont'd)					
Black japons		32.09(1)	10	15	25
Ceramic colours, other than prepared stains or finely divided metals or compounds of metals, liquid		32.08	10	15	25
Driers, liquid		32.11	10	15	25
Glazings and dressings, prepared, of a kind used in the textile, paper, leather or like industries		38.12(1)	10	15	25
Solutions (other than collodions) of esters or ethers of cellulose in volatile organic solvents, when the weight of the solvent exceeds 60 per cent of the weight of the solution		32.09(1)	10	15	25
Solutions of synthetic resin in volatile organic solvents, when the weight of the solvent exceeds 60 per cent of the weight of the solution		32.09(1)	10	15	25
Varnishes and lacquers, non-alcoholic		32.09(1)	10	15	25

202

Imports under this item are estimated to have been nearly \$2 million in 1964 and over \$2.5 million in 1965 when most imports were from M.F.N. countries.

250 (25000-1)

Paris green, dry:

Free 7½ 10

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
250 (25000-1) (Cont'd)			
Copper acetoarsenite (cupric acetoarsenite; emerald green; emperor green; imperial green; kaiser green; King's green; meadow green; mitis green; moss green; new green; Paris green; patgreen; Schweinfurt green; Vienna green)		29.45(2) 38.11	Free 7½ 15 Free Free Free

Imports under this item are estimated to have been small in 1965, all from M.F.N. countries.

251 (25100-1)

Gold liquid paint:

15 22½ 25 32.09(1) 10 15 25

Imports under this item are estimated to have been negligible in 1964 and in 1965 but all were from M.F.N. countries.

*252 (25200-1)

Shoe blacking; shoemakers' ink; shoe, harness and leather dressing, and knife or other polish or composition, n.o.p.:

12½ 17½ 27½

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>	
<u>*252 (25200-1) (Cont'd)</u>				
Anti-slip transmission belt preparations		38.19(1)	10	15 25
Leather dressings		38.12(1)	10	15 25
Preparations containing water pigments, for finishing leather		32.09(1)	10	15 25
Whitening for cleaning footwear		32.09(1)	10	15 25
<u>Apart from the products shown, the scope of item *252 would remain unchanged.</u>				
Imports under this item are estimated to have been about \$2 million in 1965, mostly from M.F.N. countries. It is not possible to estimate the extent to which these imports would be relocated.				
<u>253 (25300-1)</u>				
Putty of all kinds:	17½ 22½ 27½			
Putty including glaziers' putty based on oil and natural calcium carbonate		32.12(1)	10	15 25
<u>Imports under this item are estimated to have been substantially less than a quarter of a million dollars in 1964 and in 1965 when virtually all were from M.F.N. countries.</u>				
<u>*254(4) (25404-1)</u>				
Gums and blends consisting wholly or in chief part of gums, n.o.p.:	Free	Free	15	

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
*254(4) (25404-1) (Cont'd)			
Alginic acid salts		39.06(2)	Free 15
Glazings and dressings, prepared, of a kind used in the textile, paper, leather or like industries		38.12(1)	10 15 25
<u>Alginic acid salts</u> would be relocated to preserve the completeness of the Nomenclature. Products of item *254(4) meeting the description of Recommended Item 38.12 would be in the latter. Otherwise, the scope of item *254(4) would appear to be unchanged.			
<u>Imports</u> under this item are estimated to have been about \$3.5 million in 1965, mostly from M.F.N. countries. It is probable that the relocations would not affect a substantial proportion of these imports.			
<u>256 (25600-1)</u>			
Printing ink:	12½ 15 25		
Inks for hectographic and duplicating machines		32.13	10 15 25
Inks for typewriter ribbons		32.13	10 15 25
Printing ink		32.13	10 15 25
Solid ink in stick form, heated in the apparatus and imprinted on ribbon		32.13	10 15 25

Imports under this item are estimated to have been over \$1.5 million in 1964 and 1965; about 20 per cent were from B.P. countries in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
256a (25605-1)			
Rotogravure ink:	12½ 17½ 20	32.13	10 15 25

Imports under this item are reported to have been about \$428,000 in 1964 and about \$250,000 in 1965; all imports were from M.F.N. countries in each of the two years.

257 (25700-1)

Writing ink:

15	20	25	32.13	10	15	25
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Imports under this item are estimated to have been about a quarter of a million dollars in 1965, somewhat more than in 1964. Most imports were from M.F.N. countries in 1965.

260 (26000-1) (Unchanged)

Turpentine, raw or crude:

Free	Free	Free
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Imports under this item are estimated to have been less than \$50,000 in 1965, all from M.F.N. countries.

261 (26100-1)

Turpentine, spirit of:

Free	Free	Free
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<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>261 (26100-1) (Cont'd)</u>			
Cymene (cymol, isopropyltoluene, isopropyltoluol, methylpropylbenzene) para-cymene		29.01(1)	Free 15 25
Dipentene (cajaputene; cinene, in active limonene)		29.01(9)	Free Free Free
Dipentene, crude		38.07	Free Free Free
Pinenes		29.01(16)	Free Free Free
Rosin spirit		38.08	Free Free Free
Terpineol (terpilenol; alpha-terpineol; beta-terpineol; gamma-terpineol)		29.05(6)	Free Free Free
Terpenic solvents, other, produced by the distillation or other treatment of coniferous woods		38.07	Free Free Free
Turpentine, spirits of (gum, wood and sulphate)		38.07	Free Free Free

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Imports under this item are reported to have been about \$330,000 in 1964 and about \$251,000 in 1965, virtually all from M.F.N. countries.

262 (26200-1) (Unchanged)

Chemical compounds for removing water and salts from crude petroleum oils:

Free Free 25

Imports under this item are estimated to have been nearly one million dollars in 1965, practically all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>263 (26300-1)</u>			
Compounds of tetraethyl lead, in which tetraethyl lead is the preponderant constituent by weight:	Free 5 10		
Anti-knock preparations of tetraethyl lead in which tetraethyl lead is the preponderant constituent by weight		38.14(2)	5 10 25
<u>Imports under this item are estimated to have been about \$5 million in 1965, somewhat more than in 1964; all were from M.F.N. countries in 1965.</u>			
<u>263a (26305-1)</u>			
Coal-tar benzol, when imported by refiners of crude petroleum, for use exclusively in blending with gasoline wholly produced in Canada:	10 10 25		
Benzene (benzol)		29.01(3)	Free Free Free

Imports under this item are estimated to be negligible.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>263b (26310-1)</u>			
Diethyl ketone, methyl normal propyl ketone and blends thereof; methyl ethyl ketone, furfural and methyl isobutyl ketone; all the foregoing for use only in the refining of oils:	Free Free 25		
Blends of diethyl ketone and methyl n-propyl ketone for refining oil		R-18 263b	Free Free 25
Diethyl ketone for refining oil		R-18 263b	Free Free 25
Ethylmethyl ketone (butanone; methylethylketone)		29.13(7)	10 15 25
Furfural for refining oil		R-18 263b	Free Free 25
Methyl isobutyl ketone (hexone; isobutyl methyl ketone; 2-methyl-4-pentanone)		29.13(12)	10 15 25
Methyl n-propyl ketone for refining oil		R-18 263b	Free Free 25
<u>Imports under this item are estimated to have been less than \$100,000 in 1965, almost all from M.F.N. countries.</u>			
<u>263c (26315-1)</u>			
Materials of a kind not produced in Canada for use only as catalysts in the refining of petroleum:	Free Free 25		
Catalyst preparations for cracking petroleum, fluid-bed type		38.19(1)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>263c (26315-1) (Cont'd)</u>			
Catalyst preparations for cracking petroleum, other than fluid-bed type		38.19(5)	Free Free 25
Catalyst preparations, for refining petroleum, other than those for cracking petroleum		38.19(1)	10 15 25
Clay, activated		38.03(2)	10 15 25
Platinum catalysts		28.49(4)	15 20 25

Imports under this item are estimated to have been about \$4 million in 1965, almost all from M.F.N. countries.

263d (26320-1)

Ethylene dibromide and sodium for use in the manufacture of tetraethyl lead, tetramethyl lead, mixed ethyl-methyl leads, and compounds of all of the foregoing:

Ethylene dibromide (EDB; 1,2-dibromoethane; ethylene bromide)	29.02(9)	Free Free Free
Sodium	28.05(3)	Free Free Free

Imports under this item are estimated to have been about \$4 million in 1965, all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>263e (26325-1)</u>			
Compounds of tetramethyl lead, in which tetramethyl lead is the preponderant constituent by weight:	12½ 12½ 25		
Anti-knock preparations tetramethyl lead in which tetramethyl lead is the preponderant constituent by weight		38.14(2)	5 10 25
<u>Imports under this item are estimated to have been about half a million dollars in 1964 and 1965; all imports were from M.F.N. countries in 1965.</u>			
<u>*264a (26405-1)</u>			
Essential oils, natural and synthetic, n.o.p.: essential oils, natural and synthetic, containing other non-alcoholic material, n.o.p., for use in the manufacture of products or preparations for medicinal, flavouring, toilet, or other purposes, under such regulations as the Minister may prescribe:	Free 7½ 7½		
Acetophenone		29.13(6)	Free 7½
Allyl-a-ionone		29.13(6)	Free 7½
Ambrettolide (hexadecen-6-olide)		29.35(10)	Free 7½
Amyl benzoate		29.14(30)	Free 7½

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*264a (26405-1) (Cont'd)</u>			
Amyl butyrate		29.14(30)	Free $7\frac{1}{2}$
Amyl cinnamate		29.14(30)	Free $7\frac{1}{2}$
alpha-Amyl cinnamic aldehyde (jasmine aldehyde)		29.11(6)	Free $7\frac{1}{2}$
Amyl phenylacetate		29.14(30)	Free $7\frac{1}{2}$
Amyl propionate		29.14(30)	Free $7\frac{1}{2}$
Amyl salicylate (isoamyl salicylate; orchidae)		29.16(15)	Free $7\frac{1}{2}$
Amyl valerate		29.14(30)	Free $7\frac{1}{2}$
Anethole (anise camphor; methoxy- propenylbenzene; para-propenyl- anisole)		29.08(12)	Free $7\frac{1}{2}$
Anisaldehyde (anisis aldehyde; methoxylbenzaldehyde)		29.11(6)	Free $7\frac{1}{2}$
Anisyl acetate		29.14(30)	Free $7\frac{1}{2}$
Anisyl alcohol (anisis alcohol; anise alcohol; para-methoxybenzyl alcohol)		29.08(12)	Free $7\frac{1}{2}$
Benzaldehyde (benzene carbonal; benzoic aldehyde; benzoyl hydride; synthetic oil of bitter almonds)		29.11(6)	Free $7\frac{1}{2}$
Benzilic acid		29.16(15)	Free $7\frac{1}{2}$
Benzylacetate		29.14(30)	Free $7\frac{1}{2}$
Benzyl formate		29.14(30)	Free $7\frac{1}{2}$
Benzyl phenylacetate		29.14(30)	Free $7\frac{1}{2}$
Benzyl propionate		29.14(30)	Free $7\frac{1}{2}$
Benzyl salicylate		29.16(15)	Free $7\frac{1}{2}$
Bornyl acetate		29.14(30)	Free $7\frac{1}{2}$
Bornyl formate		29.14(30)	Free $7\frac{1}{2}$
Bromostyrene		29.02(7)	Free $7\frac{1}{2}$

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*264a (26405-1) (Cont'd)</u>			
beta-Bromostyrene		29.02(7)	Free 7 $\frac{1}{2}$
Butyl benzoate		29.14(30)	Free 7 $\frac{1}{2}$
Capraldehyde (aldehyde C-10; capric aldehyde; n-decanal; n-decyl aldehyde)		29.11(6)	Free 7 $\frac{1}{2}$
Caprylic aldehyde (aldehyde C-8; octanal; n-octyl aldehyde)		29.11(6)	Free 7 $\frac{1}{2}$
Carvacrol		29.06(9)	Free 7 $\frac{1}{2}$
Carvone (carvol)		29.13(6)	Free 7 $\frac{1}{2}$
Cedryl acetate		29.14(30)	Free 7 $\frac{1}{2}$
Cineol (cajeputol; eucalyptol)		29.08(12)	Free 7 $\frac{1}{2}$
Cinnamaldehyde (cinnamic aldehyde; cinnamyl aldehyde; 3-phenylpropenal)		29.11(6)	Free 7 $\frac{1}{2}$
Cinnamylacetate		29.14(30)	Free 7 $\frac{1}{2}$
Cinnamyl butyrate		29.14(30)	Free 7 $\frac{1}{2}$
Citral (geranial; geranialdehyde; 3,7-dimethyl-2,6-octadienol)		29.11(6)	Free 7 $\frac{1}{2}$
Citronellaldehyde		29.11(6)	Free 7 $\frac{1}{2}$
Citronellol		29.04(4)	Free 7 $\frac{1}{2}$
Citronellyl acetate		29.14(30)	Free 7 $\frac{1}{2}$
Citronellyl butyrate		29.14(30)	Free 7 $\frac{1}{2}$
Citronellyl formate		29.14(30)	Free 7 $\frac{1}{2}$
p-Cresylacetate		29.14(30)	Free 7 $\frac{1}{2}$
p-Cresyl methyl ether (methylanisole; methyl-para-cresol; methyl-para-cresol ether)		29.08(12)	Free 7 $\frac{1}{2}$
Cyclamen aldehyde (methyl para-isopropyl phenylpropyl aldehyde)		29.11(6)	Free 7 $\frac{1}{2}$
Cyclocitral		29.11(6)	Free 7 $\frac{1}{2}$

<u>Existing Item</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*264a (26405-1) (Cont'd)</u>		
Diacetyl (biacetyl; butanedione; diketobutane; dimethyldiketone; dimethylglyoxal)	29.13(6)	Free $7\frac{1}{2}$
Diethylacetal (acetal; 1,1-diethoxyethane; ethylidene diethyl ether)	29.10(2)	Free $7\frac{1}{2}$
Dimethyl benzyl carbonyl acetate	29.14(30)	Free $7\frac{1}{2}$
Dimethyl octanol	29.04(4)	Free $7\frac{1}{2}$
1,4-Dioxan (1,4-dioxane; 1,4-diethylene dioxide; diethylene ether; diethylene oxide; dioxethylene ether)	29.08(12)	Free $7\frac{1}{2}$
1,2-Diphenoxyethane (see ethylene glycol diphenyl ether)		
Dodecanal (aldehyde C-12 lauric; dodecyl aldehyde; lauraldehyde; lauric aldehyde)	29.11(6)	Free $7\frac{1}{2}$
Ethyl benzoate	29.14(30)	Free $7\frac{1}{2}$
Ethyl butyrate	29.14(30)	Free $7\frac{1}{2}$
Ethyl capronate	29.14(30)	Free $7\frac{1}{2}$
Ethyl cinnamate	29.14(30)	Free $7\frac{1}{2}$
Ethylene glycol diphenyl ether (1,2-diphenoxyethane)	29.08(12)	Free $7\frac{1}{2}$
2-Ethylhexaldehyde (butylethyl acetaldehyde; 2-ethylhexanal; octyl aldehyde)	29.11(6)	Free $7\frac{1}{2}$
Ethyl nitrate	29.18(2)	Free $7\frac{1}{2}$
Ethyl oenanthate	29.14(30)	Free $7\frac{1}{2}$
Ethyl phenylacetate	29.14(30)	Free $7\frac{1}{2}$
Ethyl salicylate	29.16(15)	Free $7\frac{1}{2}$
Ethyl valerate	29.14(30)	Free $7\frac{1}{2}$
Eugenol (4-allyl-2-methoxyphenol; eugenol acid)	29.08(12)	Free $7\frac{1}{2}$

Existing Item	Existing Rates	Recommended Items	Recommended Rates
*264a (26405-1) (Cont'd)			
iso Eugenol		29.08(12)	Free $7\frac{1}{2}$
Fenchone		29.13(6)	Free $7\frac{1}{2}$
Geraniol (3,7-dimethyl-2,6-octadienol)		29.04(4)	Free $7\frac{1}{2}$
Geranylacetate		29.14(30)	Free $7\frac{1}{2}$
Geranyl benzoate		29.14(30)	Free $7\frac{1}{2}$
Geranyl butyrate		29.14(30)	Free $7\frac{1}{2}$
Geranyl formate		29.14(30)	Free $7\frac{1}{2}$
Geranyl propionate		29.14(30)	Free $7\frac{1}{2}$
Heptanal (aldehyde C-7; heptaldehyde; oentanthal aldehyde; oenanthal)		29.11(6)	Free $7\frac{1}{2}$
Hydroxycitronellal (citronellal hydrate; 3,7-dimethyl-7-hydroxyoctanal; hydroxy- citronellaldehyde; synthetic muguet)		29.11(6)	Free $7\frac{1}{2}$
Ionones		29.13(6)	Free $7\frac{1}{2}$
pseudo-ionones		29.13(6)	Free $7\frac{1}{2}$
Ionone terpenes		29.13(6)	Free $7\frac{1}{2}$
Irone		29.13(6)	Free $7\frac{1}{2}$
Isobornyl acetate		29.14(30)	Free $7\frac{1}{2}$
Isobornyl formate		29.14(30)	Free $7\frac{1}{2}$
Isobutyl phenylacetate		29.14(30)	Free $7\frac{1}{2}$
para-Isopropyl-alpha-methylhydro- cinnamaldehyde		29.11(6)	Free $7\frac{1}{2}$
Isosafrole		29.10(2)	Free $7\frac{1}{2}$
Jasmone		29.13(6)	Free $7\frac{1}{2}$
Linalol (linalool; 3,7-dimethyl-1, 6-octadien-3-ol)		29.04(4)	Free $7\frac{1}{2}$

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*264a (26405-1) (Cont'd)</u>			
Linalyl acetate		29.14(30)	Free $7\frac{1}{2}$
Linalyl benzoate		29.14(30)	Free $7\frac{1}{2}$
Linalyl butyrate		29.14(30)	Free $7\frac{1}{2}$
Linalyl formate		29.14(30)	Free $7\frac{1}{2}$
Linalyl propionate		29.14(30)	Free $7\frac{1}{2}$
Menthone		29.13(6)	Free $7\frac{1}{2}$
Methyl acetate		29.14(30)	Free $7\frac{1}{2}$
Methyl benzoate		29.14(30)	Free $7\frac{1}{2}$
Methyl cinnamate		29.14(30)	Free $7\frac{1}{2}$
Methyl formate		29.14(30)	Free $7\frac{1}{2}$
Methyl hexyl ketone		29.13(6)	Free $7\frac{1}{2}$
pseudo-methyl ionones		29.13(6)	Free $7\frac{1}{2}$
Methyl-iso Eugenol (propenyl guaiacol)		29.08(12)	Free $7\frac{1}{2}$
Methylnonylacetalddehyde (aldehyde			
C-12; MNA)		29.11(6)	Free $7\frac{1}{2}$
Methyl nonyl ketone		29.13(6)	Free $7\frac{1}{2}$
Methyl phenylacetate		29.14(30)	Free $7\frac{1}{2}$
Methyl salicylate (betula oil; gaultheria			
oil; sweet-birch oil; winter green oil)		29.16(15)	Free $7\frac{1}{2}$
Nerol		29.04(4)	Free $7\frac{1}{2}$
Nonolactone		29.35(10)	Free $7\frac{1}{2}$
Octylacetate		29.14(30)	Free $7\frac{1}{2}$
Pelargonalddehyde (aldehyde C-9; nonanal;			
n-nonyl aldehyde; pelargonie aldehyde)		29.11(6)	Free $7\frac{1}{2}$
alpha-Pentylcinnamaldehyde (alpha-n-amy1-			
beta-phenylacrolein)		29.11(6)	Free $7\frac{1}{2}$
Perillaldehyde		29.11(6)	Free $7\frac{1}{2}$

Existing Rates	Recommended Items	Recommended Rates
<u>*264a (26405-1) (Cont'd)</u>		
Phellandral (tetrahydrocuminaldehyde)	29.11(6)	Free
Phenoxyethanol	29.08(12)	Free
Phenoxyethyl isobutyrate	29.14(30)	Free
Phenylacetaldehyde (ethylalbenzene; hyacinthin; alpha-toluic aldehyde)	29.11(6)	Free
Phenylethyl acetate	29.14(30)	Free
Phenylethyl butyrate	29.14(30)	Free
Phenylethyl formate	29.14(30)	Free
Phenylethyl isobutyrate	29.14(30)	Free
Phenylmethyl carbiny l acetate	29.14(30)	Free
Phenylpropyl acetate	29.14(30)	Free
Propyl benzoate	29.14(30)	Free
Pyrethrin I	29.14(30)	Free
Rhodinol	29.04(4)	Free
Rhodiny l acetate	29.14(30)	Free
Rhodiny l formate	29.14(30)	Free
Safranal	29.11(6)	Free
Safrrole (4-allyl-1,2-methylenedioxybenzene)	29.10(2)	Free
Salicylaldehyde (orthohydroxybenzaldehyde; salicylal; salicylic aldehyde)	29.11(6)	Free
Santalol	29.05(3)	Free
Terpinolene	29.01(10)	Free
Terpinyl acetate	29.14(30)	Free
Terpinyl formate	29.14(30)	Free
Terpinyl propionate	29.14(30)	Free
Trimethyl undecylic aldehyde	29.11(6)	Free
Undecanal	29.11(6)	Free
Undecolactone	29.35(10)	Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*264a (26405-1) (Cont'd)</u>			
Undecylenaldehyde		29.11(6)	Free 7½
Undecylic aldehyde		29.11(6)	Free 7½
Vetiverol (vetivinol; vetivol)		29.04(4)	Free 7½
Vetivert acetate		29.14(30)	Free 7½
<u>All single chemically-defined products hitherto classified in item *264a would be relocated. The scope of the item would be otherwise unchanged.</u>			
Imports under this item are estimated to have been about \$8 million in 1965, mostly from M.F.N. countries.			
Although a substantial proportion of these imports might be relocated, it would be without change in the rates of duty.			
<u>264b (26410-1)</u>			
Camphor, natural or synthetic, whether refined or not:	Free 5 10		
Camphor (2-camphanone; camphor, natural; camphor, synthetic; gum camphor)		29.13(3)	Free 5 25

Imports under this item are estimated to have been about \$50,000 in 1964 and 1965; in 1965 most imports were from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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264c (26415-1)

Menthol, natural or synthetic:

Free Free 10

Menthol (hexahydrothymol; methyl-hydroxyisopropylcyclohexane; peppermint camphor)

Free Free Free

29.05(4)

Imports under this item are estimated to have been less than \$300,000 in 1965, almost all from M.F.N. countries.

269(i) (26901-1)

Products of petroleum, n.o.p.:--
Lighter than .8236 specific gravity (40.3 A.P.I.) at 60 degrees Fahrenheit:

per gallon $\frac{3}{4}\phi$ 1 ϕ 2 ϕ

Cyclopentane (pentamethylene)	29.01(1)	Free 15 25
Decanes	29.01(1)	Free 15 25
Heptane (dipropylmethane)	29.01(1)	Free 15 25
Hexanes	29.01(12)	Free Free Free
Pentadecanes	29.01(1)	Free 15 25

Only those products of this item which meet the criteria for the relevant Recommended Items would be in such items; other products would remain in item 269(i).

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>269(i) (26901-1) (Cont'd)</u>			
Imports under this item are estimated to have been over \$25 million in 1965, and more than \$15 million in 1964. In 1965, about 10 per cent of imports were from B.P. countries. The specific rate appears to be equivalent to about 7 per cent in 1964 and 9 per cent in 1965.			
This item is in Reference 120 only in so far as it relates to chemicals or plastics; most imports are thought to be outside Reference 120.			
<u>269(ii) (26902-1)</u>			
Products of petroleum, n.o.p.:—			
.8236 specific gravity (40.3 A.P.I.)			
or heavier at 60 degrees Fahrenheit:			
	per gallon	1/3¢ 1/3¢ 1¢	
Benzene (benzol)		29.01(3)	Free Free Free
Naphthenic acids and derivatives, other than naphthenates of aluminum, barium, calcium and chromium			
Sulphonaphthenic acid and its salts		38.19(1)	10 15 25
Toluene (methylbenzene; methylbenzol; phenylmethane; toluol)		38.19(1)	10 15 25
Xylene (dimethylbenzene)		29.01(21)	Free Free Free
		29.01(22)	Free Free Free

Only those products which meet the criteria for the relevant Recommended Items would be in such items; other products would remain in item 269(ii).

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>269(ii) (26902-1) (Cont'd)</u>			
Imports under this item are estimated to have been more than \$100 million in 1965, less than 25 per cent from B.P. countries. The specific rate of duty appears to have been equivalent to about 5 per cent in 1964 and in 1965.			
This item is in Reference 120 only in so far as it relates to chemicals or plastics; most imports are thought to be outside Reference 120.			
<u>269b (26910-1)</u>			
Alkyl aryl hydrocarbons unsulphonated for use in the manufacture of synthetic detergents:	per gallon	Free	Free 1ø
Alkyl aryl hydrocarbons (alkyl benzenes; detergent alkylates), unsulphonated reaction blends		38.19(2)	5 10 25
<u>Imports under this item are estimated to have been over \$2.5 million in 1965, all from M.F.N. countries.</u>			
<u>270 (27000-1) (Unchanged)</u>			
Oil for use in the concentration of ores:			Free Free Free
<u>Imports under this item are estimated to have been about three quarters of a million dollars in 1965, mostly from M.F.N. countries.</u>			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*272a (27205-1)</u>			
Petroleum greases and lubricating greases, n.o.p.:	12½ 17½ 20		
Silicone resins without admixture		39.01(a)1	Free Free 10
<u>Other products would remain in item *272a.</u>			
Imports under this item are estimated to have been about \$2.5 million in 1965, almost all from M.F.N. countries.			
<u>*275a (27501-1) (27502-1)</u>			
Liquefied petroleum gases when imported in containers:-			
(a) For heating, cooking or illuminating purposes	10 12½ 25		
(b) N.o.p.	10 12½ 25		
Butanes:			
(a) iso-butane (2-methylpropane; trimethylmethane)			
(b) n-butane (butane; butylhydride)		29.01(5)	10 12½ 25
Butylenes (butenes)			
(a) alpha-Butylene (butene-1; butylene; ethylethylene)			
(b) beta-Butylene (butene-2; butylene; dimethylethylene)			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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*275(a) (27501-1) (27502-1) (Cont'd)

(c) iso-Butylene (iso-butene; butylene;
2-methylpropene)

Propane (dimethylethane)
Propylene (propene)

29.01(6)	Free	Free	Free
29.01(17)	10	12½	25
29.01(18)	Free	Free	Free

Apart from those materials now provided for more specifically under Recommended Items such as 29.01, the scope of items *275(a) and (b) would be unchanged.

Imports under item 275a (27501-1) are estimated to have been about \$800,000 in 1965, all from M.F.N. countries.

Imports under item 275b (27502-1) are estimated to have been about \$300,000 in 1965, almost all from M.F.N. countries. It is not possible to estimate the extent to which these imports would be relocated.

*276b(3) (27621-1)

Palm and palm kernel oil, not edible,
for manufacturing soap:

Free	10	10
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Palm fatty acid

15.10(2)	10	15	25
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Apart from palm fatty acid for manufacturing soap, the coverage of item *276b(3) would be unchanged.

Imports under this item are estimated to have been about \$125,000 in 1965, all from B.P. countries. It is not possible to estimate the extent to which these imports would be relocated.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*276c(2) (27630-1)</u>			
Cocoanut oil, not edible, for manufacturing soap:	Free 10 10		
Cocoanut fatty acid		15.10(2)	10 15 25
<u>Apart from cocoanut fatty acid for manufacturing soap, the coverage of item *276c(2) would be unchanged.</u>			
Imports under this item are estimated to have been more than \$3 million in 1965, mostly from B.P. countries. It is not possible to estimate the extent to which these imports would be relocated.			
<u>*276d (2) (27642-1)</u>			
Peanut oil for manufacturing soap or for canning fish:	Free Free Free		
Peanut fatty acid		15.10(2)	10 15 25
<u>Apart from peanut fatty acid for manufacturing soap or for canning fish, the coverage of item *276d(2) would be unchanged.</u>			
There are no known imports under this item.			
<u>*276e(1) (27648-1)</u>			
Olive oil for manufacturing soap:	Free Free Free		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*276e(1) (27648-1) (Cont'd)</u>			
Olive fatty acid		15.10(2)	10 15 25
<u>Apart from olive fatty acid for manufacturing soap, the coverage of item *276e(1) would be unchanged.</u>			
There were no known imports under this item in 1965.			
<u>*276f(4) (27672-1)</u>			225
Soya bean oil for manufacturing soap:	Free Free Free		
Soya fatty acid		15.10(2)	10 15 25
<u>Apart from soya fatty acid for manufacturing soap, the coverage of item *276f(4) would be unchanged.</u>			
There are no known imports under this item.			
<u>*277 (27700-1)</u>			
Oils, hydrogenated, blown, dehydrated or sulphonated, not including blown or hydrogenated fish, seal or whale oils:	15 20 25		
Petroleum sulphonates of alkali metals		34.02	10 15 25
Petroleum sulphonates of ammonium		34.02	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*277 (27700-1) (Cont'd)</u>			
Petroleum sulphonates of ethanolamines		34.02	10 15 25
Sulphonated oils		34.02	10 15 25

Individual materials now classified under item 277 will require to be re-examined to determine whether they are more specifically covered by item *277 or by any of the Recommended Items such as 34.02.

Imports under this item are estimated to have been about \$3 million in 1965, all from M.F.N. countries. It is not possible to estimate the extent to which these imports would be relocated.

*295a (29505-1)

Zirconium silicate:	Free	Free	Free
Zirconium silicate, natural		R-19 *295a	Free
Zirconium silicate, other than natural		28.45(4)	Free

Imports under this item are estimated to have been more than one quarter of a million dollars in 1965, nearly 50 per cent from B.P. countries.

295c (29515-1)

Activated clay, when imported for use in the refining of oils:	10	10	25
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<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
295c (29515-1) (Cont'd)			
Clay, activated		38.03(2)	10 15 25
<u>Imports under this item are estimated to have been substantially less than a quarter of a million dollars in 1964 and in 1965, all imports were from M.F.N. countries.</u>			
*296b(1) (29610-1)			
Magnesite, dead-burned or sintered; magnesite, caustic calcined; plastic magnesia:	15 15 30		
Magnesium oxide, n.o.p.		R-20 296b(1)	15 15 30
Magnesium oxide (magnesia; periclase), not less than 94 per cent pure		28.18(2)	Free Free Free
Plastic magnesia		R-20 296b(1)	15 15 30
<u>Imports under this item are estimated to have been about three quarters of a million dollars in 1964 and in 1965 when most were from M.F.N. countries.</u>			
296b(2) (29615-1)			
Magnesium carbonate, basic or otherwise, excepting crude rock, n.o.p.:	20 20 30		
Magnesium carbonate, n.o.p.		R-20 296b(2)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>296b(2) (29615-1) (Cont'd)</u>			
Magnesium carbonate, precipitated		28.42(1)	Free 15 25
<u>Imports under this item are estimated to have been about \$50,000 in 1965, mostly from B.P. countries.</u>			
<u>296c (29620-1)</u>			
Magnesium carbonate, imported for use in the compounding or manufacture of rubber products:	Free 20 30		
Magnesium carbonate, n.o.p.		R-20 296b(2)	Free 15 25
Magnesium carbonate, precipitated		28.42(1)	Free 15 25

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Imports under this item are estimated to have been negligible in 1965.

<u>296e (29630-1)</u>	
Magnesium oxide and magnesium carbonate, not further manufactured than ground, when imported by manufactures of insulating materials for use exclusively in the manufacture of such insulating materials, in their own factories:	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>296e (29630-1) (Cont'd)</u>			
Magnesium carbonate, n.o.p.		R-20 296b(2)	Free 15 25
Magnesium carbonate, precipitated		28.42(1)	Free 15 25
Magnesium oxide (magnesia; periclase)		28.18(2)	Free Free Free
not less than 94 per cent pure		R-20 296b(1)	15 15 30
Magnesium oxide, n.o.p.			
Magnesium oxide, or calcined magnesite,			
for use exclusively in the manufacture		R-21 296e	Free Free Free
of electrical cables			

Imports under this item are estimated to have been about half a million dollars in 1965, virtually all from M.F.N. countries.

*297 (29700-1)

Silex or crystallized quartz, ground	Free Free Free		
or unground:			
Diatomite, activated		38.03(1)	Free Free Free

Apart from activated diatomite, relocated for completeness of Nomenclature, the coverage of item *297 would be unchanged.

Imports under this item are estimated to have been about \$2 million in 1965, almost all from M.F.N. countries. It is believed that only a small part of these imports would be relocated, without change in the duty-free status.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>316b (31610-1) (Unchanged)</u>			
Metallic elements and tungstic acid when imported by manufacturers for use only in their own factories in the manufacture of metal filaments for electric lamps:	Free	Free	Free
<u>Imports under this item are estimated to have been about \$2 million in 1965, almost all from M.F.N. countries.</u>			
<u>326d (32639-1)</u>			
Beads, drops or other shapes of glass or cellulose acetate, when imported by manufacturers of imitation pearls, for use exclusively in the manufacture of such articles in their own factories:	Free	Free	Free
All products		R-22 326d	Free

There are no known imports under this item.

326f (32645-1)
Moulded illuminating shades, reflectors and refractors of glass, of synthetic resins, of pyroxylin, or of plastics of

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
326f (32645-1) (Cont'd)			
cellulose acetate or other chemical derivatives of cellulose, of a class or kind not made in Canada, designed for use with lighting fixtures or with portable lamps:	Free 15 32½		
Other than the following		R-23 326f	Free 15 32½
Moulded illuminating shades, reflectors and refractors of synthetic resins, of pyroxylin, or of plastics of cellulose acetate or other chemical derivatives of cellulose		39.07	20 20 30 231
<u>Imports</u> under this item are estimated to have been about \$3 million in 1964 and over \$3.5 million in 1965, almost all from M.F.N. countries.			
326q (32663-1)			
Beads, drops or other shapes of synthetic resins, for use in the manufacture of imitation pearls:	Free Free 30		
All products	.	R-22 326d	Free Free Free
<u>Imports</u> under this item are estimated to have been negligible in 1965.			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*333 (33300-1)</u>			
Cinnabar; quicksilver; radium:	Free		Free
Cinnabar		R-24 *333	Free
Mercury (quicksilver)		28.05(2)	Free
Radium		28.50	Free
Radium bromide		28.50	Free
Radium chloride		28.50	Free
Radium sulphate		28.50	Free
Radon		28.50	Free

Imports under this item are estimated to have been about \$3 million in 1965 when most were from M.F.N. countries.

<u>*334 (33400-1)</u>			
Kryolite or cryolite:	Free		Free
Cryolite, natural		R-25 *334	Free
Sodium fluoroaluminate (sodium aluminum fluoride; sodium fluoaluminate; synthetic cryolite)		28.29(6)	Free

Imports under this item are estimated to have been less than half a million dollars in 1965; nearly all were from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>335 (33500-1)</u>			
Manganese, oxide of:	Free	Free	Free
Manganese oxides, natural		R-37(4)	Free
Manganese dioxide (battery manganese; manganese binoxide; manganese black; manganese peroxide)		28.22	Free
Manganese oxide (manganese protoxide; manganous oxide; manganese monoxide)		28.22	Free
Manganese III oxide (manganic oxide)		28.22	Free
Manganese trioxide		28.22	Free
Manganomanganic oxide		28.22	Free
Permanganic anhydride		28.22	Free
<u>Imports under this item are estimated to have been about three quarters of a million dollars in 1965, virtually all from M.F.N. countries.</u>			
<u>345 (Cancelled or expired item)</u>			
Item 345 was referred to the Board in so far as it then related to sal ammoniac skimmings. From June 19, 1958 this product was no longer classified under tariff item 345. See item 210h (21040-1).			
<u>347e (34725-1)</u>			
Electrolytic manganese metal for alloying purposes:	Free	5	20
Electrolytic manganese for alloying purposes		R-36(4)	Free
			Free
			20

<u>Existing</u> <u>Rates</u>	<u>Recommended</u> <u>Items</u>	<u>Recommended Rates</u>
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347e (34725-1) (Cont'd)

Imports under this item are estimated to have been over one million dollars in 1964 and about \$2 million in 1965 when over 25 per cent was from B.P. countries.

*353(f) (35306-1)

Aluminum and alloys thereof:

Leaf, n.o.p., or foil, less than .005 inch in thickness, plain or embossed, with or without backing:

Free	30	30
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Aluminum foil

37.08

10	15	25
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234

Apart from aluminum foil for photographic purposes, relocated in Recommended Item 37.08, the coverage of item *353(f) would be unchanged.

Imports under this item are estimated to have been about one million dollars in 1965, about 70 per cent from M.F.N. countries. It is believed that the effect of the relocation on the imports under this item would be negligible.

*353(g) (35307-1)

Aluminum and alloys thereof:

Aluminum powder:

Free	27½	30
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37.08

10	15	25
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<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*353(g) (35307-1) (Cont'd)</u>			
Apart from aluminum powder for photographic purposes, relocated in Recommended Item 37.08, the coverage of item *353(g) would be unchanged.			
Imports under this item are estimated to have been about half a million dollars in 1965, about 80 per cent from M.F.N. countries. It is believed that the effect of the relocation on the imports under this item would be negligible.			
<u>*353(h) (35308-1)</u>			
Aluminum and alloys thereof:			
Aluminum leaf, less than .005 millimetre in thickness:			
Aluminum foil		37.08	10 15 25
<u>Apart from aluminum foil for photographic purposes, relocated in Recommended Item 37.08, the coverage of item *353(h) would be unchanged.</u>			
Imports under this item are estimated to have been about \$12,000 in 1965, almost all from B.P. countries. It is believed that the effect of the relocation on the imports under this item would be negligible.			
<u>*372 (37200-1)</u>			
Electric and blast furnace slag:		Free	Free 25
Basic slag		31.00(1)	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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*372 (37200-1) (Cont'd)

Recommended Item 31.00(1) would apply to basic slag only when for use as a fertilizer.

Imports under this item are estimated to have been about \$60,000 in 1965, all from M.F.N. countries. The extent to which imported basic slag is used as a fertilizer has not been established by the Board.

*375(f) (37506-1)

Ferro-alloys:-

All alloys used in the manufacture of steel or iron, n.o.p.:

Free	5	5
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Iron phosphide (ferrous phosphide; ferrophosphorus), containing 15 per cent or more by weight of phosphorus, when used in the manufacture of steel or iron

28.55(2)	Free	5	5
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This would represent a relocation of the provision for this product of item *375(f). The coverage of the item would otherwise be unchanged.

Imports under this item are estimated to have been more than \$6 million dollars in 1965, about 70 per cent from M.F.N. countries. It is believed that the relocation would affect less than 25 per cent of the imports under this item.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
488 (48800-1)			
Nitrate and acetate of lead, not ground, platinum and black oxide of copper, for use in the manufacture of chlorates and colours:	Free 10 10		
Copper oxides, natural		R-37(3)	Free 15 25
Cupric oxide (black copper oxide; copper monoxide)		28.28(1)	Free 15 25
Lead acetate, neutral		29.14(40)	Free 10 25
Lead nitrate, not ground		28.39(1)	Free 15 25

No provision being recommended for platinum now under tariff item 488, it would revert to item *363. 23

Imports under this item are estimated to have been less than \$100,000 in 1965, mostly from B.P. countries. 08

490 (49000-1)

Platinum retorts, pans, condensers, tubing and pipe, and preparations of platinum, when imported by manufacturers of sulphuric acid for use exclusively in the manufacture or concentration of sulphuric acid in their own factories:

Catalyst preparations	Free Free Free	38.19(1)	10 15 25
Preparations of platinum		38.19(1)	10 15 25
		28.49(4)	10 20 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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490 (49000-1) (Cont'd)

It being understood that the process referred to in item 490 is obsolete, no recommendation has been made for the greater part of the products now under the item.

There are no known imports under this item.

490a (49005-1)

Vanadium preparations for use as catalysts:

Free Free Free

Catalyst preparations
Preparations for steel manufacture
Vanadium pentoxide (vanadic acid anhydride)
Vanadium tetroxide
Vanadium trioxide (vanadium sesquioxide)

38.19(1)
38.19(1)
28.28(1)
28.28(1)
28.28(1)
10 15 25
10 15 25
Free 15 25
Free 15 25
Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
490a (49005-1) (Cont'd)			
<u>Imports</u> under this item are estimated to have been about \$50,000 in 1965, all from M.F.N. countries. Early data for 1966 indicate a somewhat higher level of imports, largely from B.P. countries.			
*540a (54005-1)			
Grasses, seaweed, mosses and vegetable fibres other than cotton, not coloured, not further manufactured than dried, cleaned, cut to size, ground and sifted; oakum of flax, hemp, or jute; coir and coir yarn:	Free	Free	Free
Peat		31.00(1)	Free
<u>Only</u> peat for use as fertilizer would be relocated from item *540a into item 31.00(1). The coverage of item *540a would be otherwise unchanged.			
Imports under this item are estimated to have been about \$7 million in 1965, about equally from B.P. and M.F.N. countries. The effect of the relocation on imports under this item is unknown, but it is believed that it would be small.			
577 (57700-1)			
Collars and cuffs manufactured from cellulose plastics with or without cotton interlining:	Free	20	25
		39.07	20
			30

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>577 (57700-1) (Cont'd)</u>			
<u>Imports under this item are estimated to have been negligible in 1965.</u>			
<u>*584 (58400-1)</u>			
Resin or rosin; bone pitch, crude only:	Free Free Free		
Bone pitch, crude only		R-27 *584	Free Free Free
Modified resins, crude		38.08	Free Free Free
Rosin		38.08	Free Free Free
<u>Imports under this item are estimated to have been nearly \$2.5 million in 1965, all from M.F.N. countries.</u>			
<u>*585 (58500-1)</u>			
Coal and pine pitch, burgundy pitch; and coal and pine tar, crude, in packages of not less than fifteen gallons:	Free Free Free		
Other than the following			
Pine pitch		R-28 *585	Free Free Free
Pine tar		38.10	Free Free Free
Rosin pitch		38.09	Free Free Free
		38.10	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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*585 (58500-1) (Cont'd)

Imports under this item are estimated to have been nearly \$5 million in 1965, about one-third from B.P. countries.

585a (58505-1)

Tall oil, tall oil pitch and blended
tall oil and tall oil pitch:

Free Free Free

Blends of tall oil and tall oil pitch
without other admixture

Tall oil

38.19(4)

Free Free 25

Tall oil fatty acids

38.05

Free Free Free

Tall oil pitch (sulphate pitch)

15.10(4)

Free Free Free

Tall oil resin acids

38.10

Free Free Free

38.08

Free Free Free

Imports under this item are estimated to have been over one million dollars in 1965, all from M.F.N. countries.

585b

This number applied to two cancelled or expired items both included in Reference 120.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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*588a (58805-1)

Gas for heating, cooking or illuminating,
imported by pipe line, per one thousand
cubic feet:

-	3¢	6¢
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Butanes:

- (a) iso-butane (2-methylpropane,
trimethylmethane)
 - (b) n-butane (butane; butylhydride)
- Propane (dimethylethane)

29.01(5)	10	12½	25
29.01(17)	10	12½	25

Apart from materials more specifically described in Recommended Items such as 29.01, the coverage of item *588a would remain unchanged.

Imports under this item are reported to have been \$5.8 million in 1965, all from M.F.N. countries. It is believed that the relocation of certain products would not materially affect the volume of imports under this item.

590 (59000-1)

Naphtha, high flash, for use in
Canadian manufactures:

per gallon	1/3¢	1/3¢	1¢
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Naphtha, high flash

R-29	590	Free	Free	Free
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Imports under this item are estimated to have been under \$100,000 in 1965, all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
*616(1) (61605-1)			
Rubber, crude, caoutchouc or India-rubber, unmanufactured, n.o.p.:	Free 5 5		
<p><u>Dependent upon the form of any definition that may be adopted for synthetic rubber, certain products now classified to this item might be included in Rec. Items 39.01 or 39.02.</u></p> <p>Imports under this item are estimated to have been about \$40 million in 1965, about equally from B.P. and M.F.N. countries. It is believed that any relocations from this item would affect only small volume materials.</p>			
*616(4) (61620-1)			
Latex, being crude rubber in liquid form, not compounded beyond the addition of preservatives:	Free Free Free		
<p><u>Dependent upon the form of any definition that may be adopted for synthetic rubber, certain products now classified to this item might be included in Rec. Items 39.01 or 39.02.</u></p> <p>Imports under this item are estimated to have been about \$5 million in 1965, almost all from M.F.N. countries. It is believed that any relocations from this item would affect only small volume materials.</p>			
*618 (61800-1)			
Rubber cement and all manufactures of rubber and gutta percha, n.o.p.:	15 20 27½		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*618 (61800-1) (Cont'd)</u>			
Mastics based on rubber		32.12(2)	15 20 27½
<u>Dependent upon the form of any definition that may be adopted for synthetic rubber, certain products now classified to this item might be included in Rec. Items 39.01, 39.02 or 39.07.</u>			
Imports under this item are estimated to have been in excess of \$20 million in 1965, mostly from M.F.N. countries. It is believed that any relocations from this item would affect only small volume materials.			
<u>654a (65405-1)</u>			
Pins or pegs of synthetic resin used as bristles in the manufacture of brushes:	Free 5 20		
Pins or pegs of synthetic resin		39.07	20 20 30
<u>Imports under this item are estimated to have been negligible in 1964 and in 1965.</u>			
<u>658b (65810-1)</u>			
Video tape, n.o.p.:	15 20 30		
Video tape, recorded, n.o.p.		R-30 658b(2)	15 20 25
Video tape, unrecorded		R-30 658b(1)	5 10 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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658b (65810-1) (Cont'd)

Imports under this item are estimated to have been about half a million dollars in 1964 and over three quarters of a million dollars in 1965, when almost all were from M.F.N. countries.

660a (66005-1)

Synthetic resin or cellulose plastic sheets or plates, coated or not, with or without turned edges, for the production of engravings for use by printers:

Free 7½ 30

This item is dealt with in the Board's report on Reference 133 - Machinery and Apparatus used by the Printing Industry.

660b (66010-1)

Plates, curved or not, consisting of a layer of cellulose plastic composition and metal, coated or not, for the production of printing plates:

10 10 30

This item is dealt with in the Board's report on Reference 133 - Machinery and Apparatus used by the Printing Industry.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
662 (66200-1)			
Fertilizers, unmanufactured, including phosphate rock, kainite or German potash salts and German mineral potash; bone-dust, charred bone and bone ash; fish offal or refuse and animal or vegetable manures:	Free Free Free		
Animal manures		31.00(1)	Free
Bone ash		31.00(2)	Free
Bone dust		31.00(2)	Free
Bone meal		31.00(1)	Free
Charred bone		31.00(2)	Free
Fish offal or refuse		31.00(2)	Free
Mineral potash		31.00(2)	Free
Natural rock phosphate		31.00(1)	Free
Phosphate rock		31.00(2)	Free
Potash manure salts		31.00(1)	Free
Vegetable manures		31.00(1)	Free

Products of this item, when for use as fertilizers, would be in Recommended Item 31.00(1).

Imports under this item are estimated to have been about \$10 million in 1965, mostly from M.F.N. countries.

Ex. 662 (66200-2)

Tankage:
New Zealand Trade Agreement - Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>Ex. 662 (66200-2) (Cont'd)</u>			
Tankage		31.00(2)	Free Free Free
<u>When for use as a fertilizer, this material would be in Recommended Item 31.00(1).</u>			
There are no known imports under this item.			
<u>663 (66300-1)</u>			
Fertilizers, compounded or manufactured, n.o.p.:	Free 5 10		
New Zealand Trade Agreement - Free			
Ammonia anhydrous		31.00(1)	Free Free Free
Ammoniated superphosphate		31.00(1)	Free Free Free
Ammonium phosphates		31.00(1)	Free Free Free
Ammonium phosphate-sulphate		31.00(1)	Free Free Free
Compost, humus and leaf mould		31.00(1)	Free Free Free
Dicalcium phosphate (calcium hydrogen phosphate)		31.00(1)	Free Free Free
Fish, whale or animal solubles condensed to contain not less than 5 per cent organic nitrogen		31.00(1)	Free Free Free
Formulated fertilizers containing boron, copper, manganese, molybdenum or zinc		31.00(1)	Free Free Free
Garbage tankage		31.00(1)	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
663 (66300-1) (Cont'd)			
Hoof and horn meal		31.00(1)	Free
Magnesium sulphate-potassium sulphate		31.00(1)	Free
Mixed fertilizers containing nitrogen, phosphorus or potassium		31.00(1)	Free
Nitrogen solutions (ammonia liquor, aqua ammonia)		31.00(1)	Free
Processed sewage		31.00(1)	Free
Sulphate of potash-magnesia (a potassium salt containing not less than 20 per cent soluble potash chiefly as sulphate and not less than 25 per cent sulphate of magnesium and not more than 2.5 per cent chlorine)		31.00(1)	Free
Urea formaldehyde fertilizer materials		31.00(1)	Free
Imports under this item are estimated to have been over \$1.3 million in 1964 and over half a million dollars in 1965; most were from M.F.N. countries in 1965.			
663a (66305-1)			
Cyanamide or lime nitrogen:	Free	Free	Free
Calcium cyanamide (cyanamide; lime nitrogen)		31.00(1)	Free
Calcium cyanamide (cyanamide; lime nitrogen) containing, in the dry state, more than 25 per cent by weight of nitrogen		38.11	Free
		28.58(3)	Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
663a (66305-1) (Cont'd)			
Calcium cyanamide (cyanamid; lime nitrogen) containing, in the dry state, not more than 25 per cent by weight of nitrogen whether or not treated with oil		31.00(2)	Free Free Free
<u>Imports</u> under this item are estimated to have been nearly \$50,000 in 1965, almost all from M.F.N. countries.			
663b (66310-1)			
Articles which enter into the cost of the manufacture of fertilizers, when imported for use exclusively in the manufacture of fertilizers:	Free Free Free		
All goods		R-31 663b	Free Free Free
<u>Imports</u> under this item are estimated to have been about \$40 million in 1965, mostly from M.F.N. countries.			
664(1) (66405-1)			
Crude glycerine, when imported by manufacturers for use only in their own factories in the manufacture of refined glycerine:	Free Free Free		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>664(1) (66405-1) (Cont'd)</u>			
Glycerol (glycerine, glycy1 alcohol) crude		15.11(1)	Free Free Free
<u>Imports under this item are reported to have been about \$1.3 million in 1964 and about one million in 1965, all from M.F.N. countries.</u>			
<u>664(2) (66410-1)</u>			
Glycerine, when imported by manufacturers of explosives, for use exclusively in the manufacture of such articles in their own factories:	Free Free Free		
Refined glycerine		15.11(2)	10 15 25
<u>Imports under this item are estimated to have been about half a million dollars in 1965, all from M.F.N. countries.</u>			
<u>664a (66415-1)</u>			
Nitrate compounds not elsewhere specified adapted for use in the manufacture of explosives:	Free Free Free		
Barium nitrate		28.39(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
664a (66415-1) (Cont'd)			
Calcium nitrate (lime nitrate; lime saltpetre; nitrocalcite; Norge nitre; Norwegian saltpetre), containing, in the dry state, more than 16 per cent by weight of nitrogen		28.39(1)	Free 15 25
Calcium nitrate containing, in the dry state, not more than 16 per cent by weight of nitrogen		31.00(2)	Free Free Free
Ferric nitrate (iron nitrate)		28.39(1)	Free 15 25
Guanidine nitrate		29.26(2)	10 15 25
Lead nitrate, ground		28.39(1)	Free 15 25
Magnesium nitrate		28.39(1)	Free 15 25
Mannitol hexanitate (hexanitromannite; HNM; nitromannite; nitromannitol)		29.18(4)	10 15 25
Nitroglycol (ethylene glycol dinitrate)		29.18(6)	10 15 25
Pentaerythritol tetranitrate (PETN; penthrite; tetranitropentaerythritol)		29.18(7)	10 15 25
Strontium nitrate		28.39(7)	Free Free Free

Imports under this item are estimated to have been less than \$100,000 in 1965, almost all from M.F.N. countries.

666 (66600-1)			
Nitro-glycerine, giant powder, nitro and other explosives, n.o.p.:	per pound	1 $\frac{3}{4}$ ¢	2 $\frac{1}{4}$ ¢ 2 $\frac{1}{2}$ ¢

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>666 (66600-1) (Cont'd)</u>			
Ammonals			
Ammonium nitrate fuel oil mixtures		36.02(2)	5 10 20
Blasting slurries based on ammonium nitrate		36.02(2)	5 10 20
Cellulose nitrate, dynamite grade		36.02(2)	5 10 20
Cheddites		39.03(a)2	5 10 20
		36.02(3)	5 10 20
Diazodinitrophenol			
		29.28	Free 15 25
Explosive mixtures based on:			
Ethanediol dinitrate (dinitroglycol)			
Hexanitrodiphenylamine		36.02(1)	10 15 25
Lead azide		36.02(1)	10 15 25
Lead styphnate		36.02(1)	10 15 25
Mannitol hexanitrate		36.02(1)	10 15 25
Mercury fulminate		36.02(1)	10 15 25
Methyltrinitrophenylnitramine (tetryl)		36.02(1)	10 15 25
Nitroglycerol (explosive oil; glonoin oil; glycerol trinitrate; nitroglycerin; trinitroglycerin)		36.02(1)	10 15 25
Nitroguanidine		36.02(1)	10 15 25
Nitronaphthalenes		36.02(1)	10 15 25
Pentaerythritol tetranitrate (penthrite)		36.02(1)	10 15 25
Roburites		36.02(2)	5 10 20
Tetracene		36.02(1)	10 15 25
Tetranitroaniline		36.02(1)	10 15 25
Trimethylenetrinitramine		36.02(1)	10 15 25
Trinitroaniline		36.02(1)	10 15 25
Trinitroanisole		36.02(1)	10 15 25
Trinitrobenzene		36.02(1)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>	
666 (66600-1) (Cont'd)				
Trinitrophenol		36.02(1)	10	15 25
Trinitro-m-cresol		36.02(1)	10	15 25
Trinitrophenetole		36.02(1)	10	15 25
Trinitrotoluene		36.02(1)	10	15 25
Trinitroxylene		36.02(1)	10	15 25
Lead azide		28.57(1)	Free	15 25
Mannitol hexanitrate (hexanitromannite; HNM; nitromannite; nitromannitol)		29.18(4)	10	15 25
Mercury fulminate		28.44	Free	15 25
Methyltrinitrophenylnitramine (nitramine; tetralite; tetryl; trinitrophenylmethyl-nitramine)		29.22(14)	10	15 25
254				
Nitroglycerol (explosive oil; glonoin oil; nitroglycerin; trinitroglycerin; glycerol trinitrate)		29.18(5)	10	15 25
Nitroglycol (ethylene glycol dinitrate)		29.18(6)	10	15 25
Nitroguanidine		29.26(4)	10	15 25
Pentaerythritol tetranitrate (PETN; penthrite; tetranitropentaerythritol)		29.18(7)	10	15 25
Powders, smokeless, based on nitrocellulose and glycerine, in forms such as cord, sticks, disks, tubes or flakes		36.01(1)	Free	Free
Silver azide		28.49(1)	Free	15 25
Silver fulminate		28.49(1)	Free	15 25
Trimethylenetrinitramine (cyclonite; hexahydro-1,3,5-trinitro-sym-triazine; "Hexogen"; trinitrotrimethylenetriamine)		29.26(5)	10	15 25
Trinitroanisole		29.08(22)	10	15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>		
666 (66600-1) (Cont'd)					
Trinitrophenol (carbazotic acid; nitro-xanthic acid; phenol trinitrate; picric acid; picronitric acid)		29.07(1)	Free	15	25
Trinitrotoluene (TNT; methyltrinitrobenzene; trinitrotoluol)		29.03(12)	10	15	25
Westphalites		36.02(2)	5	10	20

Imports under this item are estimated to have been about \$300,000 in 1965, all from M.F.N. countries. The specific rate of duty appears to be equivalent to less than one per cent ad valorem in 1965.

667 (66700-1)

Blasting and mining powder:

per pound 1 1/3¢ 1³/₄¢ 2¢

Black powder

36.01(2) 5 10 20

Imports under this item are believed to be negligible.

668 (66800-1)

Cannon, musket, rifle, gun and sporting powder and cannister powder:

per pound 2¢ 2³/₄¢ 3¢

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
668 (66800-1) (Cont'd)			
Black powder		36.01(2)	5 10 20
Powders, smokeless, based on nitrocellulose and glycerine		36.01(1)	Free Free Free
<u>Imports under this item are estimated to have been about half a million dollars in 1964 and in 1965 when about 12 per cent was from B.P. countries.</u>			
*669 (66900-1)			
Emery, corundum and garnet, in bulk, crushed or ground:	Free Free Free		
Other than the following		R-32 *669	Free Free Free
Artificial corundum, when in bulk		28.20	Free Free Free
<u>Imports under this item are estimated to have been about \$300,000 in 1965, all from M.F.N. countries.</u>			
*671 (67100-1)			
Artificial abrasive grains, crushed or ground:	Free Free Free		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>*671 (67100-1) (Cont'd)</u>			
Artificial abrasive grains, not chemically defined, crushed or ground		R-33 *671	Free Free
Artificial corundum, when not in bulk		28.20	Free Free
Carbides, as artificial abrasive grains, crushed or ground		28.56(2)	Free Free
Hydrides, nitrides and azides, silicides or borides as artificial abrasive grains, crushed or ground		28.57(2)	Free Free
<u>Any other chemically-defined artificial abrasive grains would be classified under the appropriate Recommended Item.</u>			
Imports under this item are estimated to have been over \$3.5 million in 1965, mostly from M.F.N. countries.			
<u>*681 (68100-1)</u>			
Junk, old; paper waste clippings and waste of all kinds, n.o.p., except metallic; broken glass or glass cullet:	Free Free Free		
Foamed and expanded cellulosic plastics and regenerated cellulose in the form of scrap or waste		39.03(f)	15 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
*681 (68100-1) (Cont'd)			
Foamed and expanded condensation, polycondensation and polyaddition products in the form of scrap or waste		39.01(f)	15 15 25
Foamed and expanded polymerisation and copolymerisation products in the form of scrap or waste		39.02(f)	15 15 25
<u>Apart from the products listed, the coverage of item *681 would be unchanged.</u>			
Imports under this item are estimated to have been about \$4 million in 1965 almost all from M.F.N. countries. The effect of the relocations on imports under this item is unknown.			25 25 88
<u>681d (68120-1)</u>			
Residues resulting from the processing abroad of uranium metal, salts or oxides of Canadian origin, for use in Canadian manufactures:	Free Free 25		
Uranium residues		R-34 681d	Free Free 25

There are no known imports under this item.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>689 (68900-1)</u>			
Charcoal, animal, for use in the refining of sugar:	Free 25 25		
Charcoal, animal, for refining sugar		38.02	Free Free Free

Imports under this item are estimated to have been less than half a million dollars in 1965, mostly from B.P. countries.

Existing Item
711 (71100-1)

Recommended Item

All goods not enumerated in this schedule as subject to any other rate of duty, and not otherwise declared free of duty, and not being goods the importation whereof is by law prohibited

Except for (+) items, recommended rates are:

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
10	15	25

For (+) items, see rates listed in Appendix I.

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
15 p.c.	20 p.c.	25 p.c.

Duty shall not be deemed to be provided for by this item upon dutiable goods mentioned as "n.o.p." in any other tariff item.

When the component material of chief value in any non-enumerated article consists of dutiable material enumerated in this schedule as bearing a higher rate of duty than is specified in this tariff item, such non-enumerated articles shall be subject to the highest duty that would be chargeable thereon if it were composed wholly of the component material thereof of chief value, such "component material of chief value" being that component material which exceeds in value any other single component material in its condition as found in the article.

Acetaldehyde (acetic aldehyde; aldehyde; ethanal; ethyl aldehyde)	29.11(2)
Acetaminophen (APAP; p-acetamidophenol; N-acetyl-para-aminophenol; para-hydroxyacetanilide)	29.25(2)
Acetone oil	+38.09
Acetonitrile (methyl cyanide)	29.27(2)
Acetylene (ethine; ethyne)	29.01(2)
Acid oils	+15.10(1)
Acrylonitrile (propenenitrile; vinyl cyanide)	29.27(3)
ACTH (acthar; adrenocorticotrophin; corticotrophin; corticostimulin)	29.39(2)
Additives for mineral oils, prepared	38.14(1)
Adipic acid (1,4-butanedicarboxylic acid; hexanedioic acid)	29.15(2)
Adiponitrile	29.27(4)
Aerosol propellant preparations	38.19(1)
Air, compressed	+28.53
Air, liquid (whether or not rare gases have been removed)	+28.53
Aldol (acetaldol; beta-hydroxybutylaldehyde; oxybutyric aldehyde)	29.11(3)
Alkali metal amalgams	+28.58(2)
Alkaline-earth metals amalgams	+28.58(2)
Alkyl aryl hydrocarbons (alkyl benzenes; detergent alkylates) unsulphonated reaction blends	+38.19(2)
Alkyl aryl sulphonate, amine salts	34.02
Alkyl benzene sodium sulphonate	34.02

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
Alkyl benzene sulphonic acid salts	34.02
Aloin (barbaloin)	29.41(2)
Aluminum amalgam	+28.58(2)
Aluminum glycinate, basic (dihydroxyaluminum aminoacetate)	29.23(2)
Aluminum octoate (aluminum 2-ethylhexoate)	29.14(8)
Aluminum tristearate	29.14(9)
Amalgams of precious metals: gold, iridium, osmium, palladium, platinum, rhodium, ruthenium and silver	+28.49(2)
para-Aminobenzenesulphonamidophyrimidine (see sulphadiazine)	
Ammonia, anhydrous or in aqueous solution (ammonium hydroxide; aqua ammonia)	28.16
Ammoniacal gas liquors and spent oxide produced in coal gas purification	38.04
Ammonium acetate	29.14(10)
Ammonium dodecylbenzene sulphonate	29.03(2)
Ammonium lauryl ether sulphate	+29.17(1)
	34.02
Ammonium lauryl sulphate	29.17(8)
Ammonium nickel sulphate (nickel ammonium sulphate) technical or commercial grade	28.48(2)
Ammonium xylene sulphonate	29.03(3)
Ammonium zinc chloride (zinc ammonium chloride)	28.48(3)
Alpha-amylase	+29.40(1)
Amylases, obtained from bacteria and moulds	+29.40(1)
Aniline (aminobenzene; aniline oil; phenylamine)	29.22(2)
Anti-foam preparations	38.19(1)
Antimony amalgam	+28.58(2)
Antimony-tin amalgam	+28.58(2)
Argon, gaseous	28.04(1)
Artificial bates	+32.03(1)
Artists' and students' sets or outfits, with brushes, palettes or other accessories (other than fitted boxes of existing item 247a(1))	+32.10(1)
Auric chloride (brown chloride; gold chloride; gold trichloride)	28.49(3)
Barium-cadmium complex for manufacture of steel	+R-8 208g
Barium-silicon complex for manufacture of steel	+R-8 208g
Barium stearate	29.14(12)
Benzene (benzol)	+29.01(3)
Benzoic acid (benzene carboxylic acid; carboxybenzene; phenylformic acid)	29.14(13)
Benzothiazyl disulphide (benzothiodiazyl disulphide; 2-benzothiazolyl disulphide; 2,2'-dibenzothiazyl disulphide; 2,2'-dithio-bis-(benzothiazole); mercaptobenzothiazyl ether)	29.35(3)
Benzoyl peroxide	29.14(14)
Bismuth amalgam	+28.58(2)
Bismuth carbonate	28.42(2)
Bismuth carbonate, basic (bismuth subcarbonate)	28.42(2)
Bismuth gallate (bismuth-3,4,5-trihydroxybenzoate)	29.16(4)
Bismuth gallate, basic (bismuth sub-gallate)	29.16(5)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1)</u> (Cont'd)	
Bismuth oxychloride (basic bismuth chloride; bismuth subchloride; bismuthyl chloride; cosmetic bismuth; flake white; pearl white)	28.30(4)
Bismuth salicylate	29.16(6)
Bismuth salicylate, basic (bismuth subsalicylate)	29.16(7)
Bismuth subnitrate (basic bismuth nitrate; bismuth oxynitrate; flake white; magistery of bismuth; pearl white; Spanish white)	28.39(2)
Bisphenol A (2,2-bis(4-hydroxyphenyl)-propane; 4,4'-isopropylidene diphenol; 2,2-di- (parahydroxyphenyl)propane; para para' isopropylidene diphenol)	29.06(2)
Black, blood	+38.02
Black, hoof	+38.02
Black, horn	+38.02
Black, leather	+38.02
Black, tortoise-shell	+38.02
Brewers' pitch	+38.10
Bromelain (bromelin)	+29.40(1)
Butadiene (butadiene-1; butadiene-3; divinyl butadiene; bivinyl; erythene; vinylethylene)	+29.01(4)
n-Butyl acetate (butyl acetate normal)	29.14(15)
Butylated hydroxytoluene (2,6-di-tertiary-butyl- 4-methylphenol; di-tertiary-Butyl-para-cresol)	29.06(3)
Butyl-2-ethylhexyl phthalate (butyl octyl phthalate)	29.15(3)
tert-Butyl hydroperoxide	29.08(2)
Butyl oleates	29.14(16)
tert-Butyl perbenzoate	29.14(17)
N-sec-Butyl-N'-phenyl-p-phenylenediamine	29.22(3)
Butyl stearates (butyl octodecanoate)	29.14(18)
n-Butyraldehyde (butaldehyde; n-butanal; n-butyl aldehyde; butyric aldehyde)	29.11(4)
Cadmium	R-36(2)
Cadmium amalgam	+28.58(2)
Calcium carbide	+28.56(3)
Calcium hydrogen phosphate (calcium phosphate, dibasic) containing, in the dry state, not less than 0.2 per cent by weight of fluorine	+31.00(2)
Calcium iodate	28.34(2)
Calcium linoleate	29.14(19)
Calcium-magnesium complex for manufacture of steel	+R-8 208g
Calcium nitrate - magnesium nitrate	+31.00(2)
Calcium phosphates, disintegrated (calcined), (thermophosphates and fused phosphates)	+31.00(2)
Calcium propionate	29.14(20)
Calcium-silicon complex for manufacture of steel	+R-8 208g
Calcium stearate	29.14(21)
Carbon blocks, plates, bars and similar semi- manufactures	38.19(1)
Carbon dioxide (carbonic acid; carbonic anhydride)	28.13(2)
Carbon tetrachloride (perchloromethane; tetrachloromethane) other than A.R. grade	29.02(2)
Castor fatty acid	15.10(2)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
Catalase	29.49(2)
Catalyst preparations, other than for refining petroleum	38.19(1)
Catalyst preparations for cracking petroleum, fluid-bed type	38.19(1)
Caulking pitch	+38.10
Cermets	+28.50
Cetyl alcohol	+15.10(3)
Cetyl sulphate	29.17(2)
Chloramphenicol (D(-)Threo-1-(paranitrophenyl)- 2-dichloroacetamide-1,3-propandiol; D(-)-Threo- 2-dichloroacetamide-1-paranitrophenylpropane- 1,3-diol), of a kind made in Canada	29.44(2)
Chloramphenicol palmitate	29.44(2)
Chlorine	28.01(2)
Chlorotetracycline (aureomycin)	29.44(4)
Chlorpromazine hydrochloride	29.35(5)
Chlorpropamide (1-(para-chlorobenzenesulphonyl)- 3-propylurea)	29.36(2)
Chromium trioxide (chromic acid; chromic anhydride)	28.21(3)
Chymotrypsin	29.40(3)
Citric acid (2-hydroxy-1,2,3-propanetricarboxylic acid)	29.16(9)
Clay, activated	38.03(2)
Cobalt linoleate (cobaltous linoleate)	29.14(23)
Cobalt naphthenate	38.19(1)
Cobalt nitrate (cobaltous nitrate), other than A.R. grade	28.39(3)
Cobblers' wax	+38.10
Cocoanut fatty acid	15.10(2)
Cocoanut oil diethanolamide	34.02
Cocoanut oil monoethanolamide	34.02
Colloidal suspensions of precious metals: gold, iridium, osmium, palladium, platinum, rhodium, ruthenium and silver, when not containing protective colloids	+28.49(4)
Colouring materials and dyeing extracts obtained from cochineal	+32.04(1)
Colouring materials and dyeing extracts obtained from kermes	+32.04(1)
Colouring materials and dyeing extracts obtained from lac dye	+32.04(1)
Colouring materials and dyeing extracts obtained from sepia	+32.04(1)
Composite solvents and thinners for varnishes and similar products	38.18
Copper amalgam	+28.58(2)
Copper naphthenate	38.19(1)
Copper-tin amalgam	+28.58(2)
Corn fatty acid	15.10(2)
Cottonseed fatty acid	15.10(2)
Creosote, wood, (e.g. beechwood creosote)	+38.09
Cresol, medicinal grade	29.06(4)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
ortho Cresol (ortho-cresylic acid; 2-methylphenol; ortho-oxy-toluene)	29.06(5)
Cresylic acid	38.19(1)
Crotonaldehyde (2-butenal; crotonic aldehyde; beta-methyl acrolein; propylene aldehyde)	29.11(5)
Cultured crystals, other than optical elements	38.19(1)
Cumene hydroperoxide (alpha, alpha-dimethyl benzyl hydroperoxide)	29.08(3)
Cupric fluoroborate	28.29(2)
Cupric sulphate, dehydrated, of technical or commercial grade	+28.38(11)
Cyclohexanol (hexahydrophenol)	29.05(2)
N-Cyclohexyl-2-benzothiazole sulphenamide	29.35(6)
Cyclopropane, for anaesthetic purposes (trimethylene)	29.01(8)
Dehydrocholic acid	29.16(10)
Desoxycholic acid (deoxycholic acid)	29.16(11)
Diastase (see malt amylases)	
Dibutyl fumarates	29.15(6)
Dibutyl maleates	29.15(7)
N,N'-Di-sec-butyl-p-phenylenediamine	29.22(4)
Dibutyl phthalates (DBP)	29.15(8)
Dibutyl sebacates	29.15(9)
Dicapryl phthalate (di-(2-octyl)phthalate)	29.15(10)
para-Dichlorobenzene (PDB; 1,4-dichlorobenzene)	29.02(6)
Dichlorodifluoromethane	29.02(4)
Dichloroethyl ether (dichloroether; 2,2'-dichlorodiethyl ether; sym-dichloroethyl ether; dichloroethyl oxide)	29.08(5)
2,4-Dichlorophenol	29.07(2)
2,4-Dichlorophenoxyacetic acid (2,4-D)	29.16(13)
Dichlorotetrafluoroethane	29.02(3)
Dicyclohexyl phthalate (DCHP)	29.15(11)
Diethanolamine (DEA; di(2-hydroxyethyl)-amine)	29.23(4)
Diethyl aluminum chloride	29.34(2)
Diethylene glycol (dihydroxydiethyl ether; digol)	29.08(6)
Diethylene glycol monobutyl ether	29.08(7)
Diethylene glycol monoethyl ether	29.08(8)
Diethylene glycol monomethyl ether (2-(beta- methoxyethoxy)ethanol)	29.08(9)
Di(2-ethylhexyl)adipate (DOA; dioctyl adipate)	29.15(14)
Di(2-ethylhexyl)azelate (dioctyl azelate)	29.15(15)
Di(2-ethylhexyl)phthalate (DOP; dioctyl phthalate)	29.15(16)
Di(2-ethylhexyl)sebacate (dioctyl sebacate)	29.15(17)
N,N-Diethyl-m-toluanide (DET)	29.25(3)
Di-iodo stearic acid	29.14(29)
Di-isodecyl adipate	29.15(18)
Di-isodecyl phthalate	29.15(19)
Di-iso-octyl adipate	29.15(20)
Di-iso-octyl phthalate	29.15(22)
N,N'-di-isopropyl-p-phenylenediamine	29.22(6)
Di(2-methoxyethyl)phthalate	29.15(23)
N-(1,3-Dimethyl butyl)-N'-phenyl-p-phenylenediamine	29.22(7)
Dimethylcyclohexyl phthalate	29.15(24)
Dioctyl diglycollate	29.16(14)
Dipentaerythritol	29.08(10)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
Diphenylamine (DPA; phenylaniline)	29.22(8)
2,5-Diphenyloxazole (PPO)	29.35(8)
N,N'-diphenyl-p-phenylenediamine	29.22(9)
Diphenylpyraline hydrochloride (4-diphenyl-methoxy-1-methylpiperidine hydrochloride)	29.35(9)
Dippel's oil	38.19(1)
Dipropylene glycol	29.08(11)
Distilled water	+28.58(1)
Di-tertiary-butyl peroxide	29.08(4)
Ditridecyl phthalate	29.15(26)
Dodecyl benzene sulphonic acid	29.03(5)
	34.02
Ethanolamine (MEA; 2-aminoethanol; colamine; 2-hydroxy-ethylamine; monoethanolamine)	29.23(4)
Ethyl acetate (acetic ester; acetic ether; vinegar naphtha)	29.14(31)
Ethoxylated alkyl phenols	34.02
Ethoxylated nonyl phenols	34.02
Ethoxylated oxo-alcohols	34.02
Ethyl aluminum sesquichloride	29.34(3)
Ethyl chloride. (chloroethane)	29.02(8)
Ethylenediaminetetra-acetic acid (EDTA; ethylenebisiminodiacetic acid; ethylenedinitrilo-tetraacetic acid) and its sodium salts	29.23(5)
Ethylene dichloride (sym-dichloroethane; 1,2-dichloroethane; Dutch liquid, Dutch oil; ethylene chloride)	29.02(10)
Ethylene glycol monobutyl ether (2-butoxyethanol)	29.08(14)
Ethylene glycol monoethyl ether (2-ethoxyethanol)	29.08(15)
Ethylene glycol monomethyl ether (2-methoxyethanol)	29.08(16)
Ethylene glycol (ethanediol; ethylene alcohol; glycol)	+29.04(5)
Ethylene oxide (epoxyethane)	29.09(3)
2-Ethyl hexyl alcohol (octanol)	29.04(11)
2-Ethyl-3-propylacrolein (2-ethylhex-2-enaldehyde)	29.11(7)
Fatty acid diethanolamide	34.02
Fatty alcohol ethylene oxide condensate	34.02
Ferrous fumarate	29.15(28)
Ferrous sulphate (copperas; green copperas; green vitriol; iron vitriol; sal chalybis), exsiccated, U.S.P.	28.38(12)(i)
Ficin	+29.40(1)
Flotation preparations	38.19(1)
Fluoroboric acid (fluoboric acid)	28.13(3)
Fluxes and other auxiliary preparations for soldering, brazing or welding	38.13
Foundry core binders based on natural resinous products	+38.10
Furazolidone (N-(5-nitro-2-furfurylidene)-3-amino-2-oxazolidone)	29.35(12)
Glass frit	32.08
Glutamic acid (alpha-aminoglutaric acid)	29.23(6)
Glycerol (glycerine, glyceryl alcohol), crude	+15.11(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
Glycerol (glycerine, glyceryl alcohol) lyes	+15.11(1)
Glycerol guaicolate (guaiacol glyceryl ether)	29.08(17)
Glycerol triacetate (triacetin)	29.14(36)
Gold sodium cyanide	+28.49(5)
Helium, gaseous	+28.04(4)
Heparin sodium	39.06(3)
Hexamethylene diamine (1,6-Diaminohexane)	29.22(10)
Hexamethylene diammonium adipate	29.22(11)
Hexamethylenetetramine (aminoform; ammonio- formaldehyde; hexamine; methenamine)	29.26(3)
Hexamethylenetetramine put up in tablets, sticks or similar forms for use as fuels	R-40(1)
Hexylene glycols (4-methyl-2,4-pentanediol)	29.04(6)
Hydrofluoric acid (hydrogen fluoride)	28.13(5)
Hydrogen	28.04(1)
Hydrogen chloride, anhydrous	+28.06(1)
12-Hydroxystearic acid	29.16(18)
Invertase (invertin; sucrase)	+29.40(1)
Iodine, other than crude	28.01(4)
Iron phosphide (ferrous phosphide; ferrophosphorus), containing 15 per cent or more by weight of phosphorus when not used in the manufacture of steel or iron	+28.55(1)
Isobutyl acetate	+29.14(1)
Isophorone	29.13(9)
N-Isopropyl-N'phenyl-p-phenylenediamine	29.22(12)
Lactose	29.43(2)
Lauric diethanolamide	29.25(4)
Lauric diisopropanolamide	34.02
Lauric isopropanolamide (lauryl isopropanolamide)	34.02
Lauroyl peroxide (alperox C; dodecanoyl peroxide)	29.25(5)
Lead amalgam	29.14(39)
Lead fluoroborate (lead fluoborate)	+28.58(2)
Lead formate	28.29(3)
Lead linoleate	29.14(41)
Lead naphthenate	29.14(42)
Lead phosphite, dibasic	38.19(1)
Lead phthalate, dibasic	28.40(2)
Lead silicate, basic	29.15(30)
Lead stearate	+28.45(1)
Lead sulphate, tribasic	29.14(43)
Lecithin (lecithol; ovalecthin; phospholutein; phosphatidyl choline)	28.38(13)
Linseed acid	+29.24(1)
Lipase	15.10(2)
Magnesium foil	+29.40(1)
Magnesium hydroxide in aqueous suspension (milk of magnesia; magnesia magma)	37.08
	+28.18(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
Magnesium stearate (dolomol)	29.14(46)
Magnesium sulphate (Epsom salts), dried pure powder	28.38(14)
Maleic anhydride (2,5-furandione)	29.15(32)
Maleic hydrazide (1,2-dihydro-3-6-pyridazinedione)	29.35(13)
Malt amylases	+29.40(1)
Manganese iodide	28.34(3)
Manganese linoleate	29.14(47)
Manganese naphthenate	38.19(1)
Manufactures of materials of Chapter 39 not elsewhere enumerated	+39.07
Mastics based on oil or plaster	32.12(1)
Mastics based on sodium silicate, zinc oxychloride, magnesium oxychloride, sulphur, zinc oxide and glycerol, not containing synthetic resin, excluding mastics based on rubber	32.12(1)
Melamine (cyanuramide; 2,4,6-triamino-sym-triazine)	29.35(14)
Menadione sodium bisulphite	29.13(10)
Meprobamate (2-methyl-2-n-propyl-1,3-propanediol dicarbamate)	29.25(7)
2-Mercaptobenzothiazole	29.35(15)
Mercuric chloride (corrosive sublimate; mercury bichloride; mercury chloride), other than A.R. grade	28.30(5)
Methenamine mandelate (hexamethylenetetramine mandelate)	29.26(3A)
Methocarbamol (3(-ortho-methoxy-phenoxy)-1,2-propanediol-1-carbamate)	29.25(8)
Methylamyl acetate (methylisobutyl carbinol acetate)	29.14(50)
Methylamyl alcohol (methyl isobutyl carbinol)	29.04(9)
Methyl chloride (chloromethane)	29.02(11)
Methylcyclohexanol (hexahydrocresol; hexahydro-methylphenol)	29.05(5)
Methylene chloride (dichloromethane; methylene dichloride)	29.02(12)
Methyl isobutyl ketone (hexone; isobutyl methyl ketone; 2-methyl-4-pentanone)	29.13(12)
2-Methyl-2-n-propyl-1,3-propanediol	29.04(10)
alpha Methylstyrene (2-phenylpropene)	29.01(13)
Mixtures of primary aliphatic alcohols	+15.10(3)
Monochlorodifluoromethane	29.02(4)
Monosodium glutamate (sodium glutamate)	29.23(9)
Morpholine (tetrahydro-1,4-oxazine)	+29.35(1)
Naphtha, high flash	+R-29 590
Naphthalene (naphthaline; tar camphor)	29.01(14)
Naphthenates and sulphonaphthenates, water soluble	34.02
Nickel sulphate (blue salt) technical or commercial grade	28.38(15)
Nitric acid (aqua fortis; azotic acid; engraver's acid), in packages weighing more than 100 pounds	28.09
Nitrobenzene (oil of mirbane; essence of mirbane)	29.03(6)
Nitrogen	28.04(1)
N-Nitrosodiphenylamine (diphenylnitrosoamine; nitrous diphenylamine)	29.22(15)
Nitrous oxide (laughing gas; nitrogen monoxide), gaseous	28.13(6)
Nonyl phenol	29.06(10)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1)</u> (Cont'd)	
Oleic acid (cis-9-octadecanoic acid; red oil)	29.14(51)
Oxygen	28.04(1)
Oxytocin (alpha-hypophamin; extract, pituitary body, posterior lobe; oxytocine)	29.39(3)
Palm fatty acid	15.10(2)
Pancreatin	29.40(4)
Paraldehyde (para-acetaldehyde; paracetaldehyde; 2,4,6-trimethyl-1,3,5-trioxane)	29.11(9)
Pectic enzymes	+29.40(1)
Penicillin and its derivatives, not including crude penicillin	29.44(3)
Pentachlorophenol	29.07(3)
Pentaerythritol (PE; pentaerythrite)	29.04(12)
Pepsin (pepsinum)	29.40(6)
Perchloroethylene (tetrachloroethylene)	29.02(13)
Phenol (benzophenol; carbolic acid; hydroxybenzene; phenylic acid)	29.06(11)
Phenolsulphonic acid (sulphocarbolic acid)	29.07(4)
Phenylazo-diamino-pyridine hydrochloride (pyridium)	29.35(16)
Phenylbiphenyloxadiazole (PBD; 2-phenyl-5-(4-biphenyl)-1,3,4-oxadiazole)	29.35(17)
Phenyl-b-naphthylamine (PBNA)	29.22(16)
1,4-bis-2-(5-Phenyloxazolyl)-benzene (POPOP)	29.35(18)
Phthalic anhydride (acid phthalic anhydride)	29.15(37)
Pine oil (excluding "pine oils" not rich in terpineol)	+38.07
Piperazine phosphate	29.35(19)
Plasticizer preparations	38.19(1)
Polyether type products of condensation, polycondensation or polyaddition, of a kind made in Canada	+39.01(a)9
Polyethylene glycol esters	34.02
Polyethylene glycols, mixed with very low molecular weight	38.19(1)
Potassium acetate	29.14(52)
Potassium amyl xanthate	29.31(5)
Potassium citrate (tripotassium citrate)	29.16(24)
Potassium ethyl xanthate	29.31(6)
Potassium fluoroborate (potassium fluoborate)	28.29(4)
Potassium iodide	28.34(4)
Potassium isopropyl xanthate	29.31(7)
Potassium sulphate (salt of Lemery), not less than 99 per cent pure, containing, in the dry state, more than 52 per cent by weight of K_2O	28.38(16)(i)
Potassium sulphate containing, in the dry state, not more than 52 per cent by weight of K_2O	31.00(2)
Potassium tartrate neutral, other than A.R. grade	29.16(25)
Potassium titanium fluoride (titanium potassium fluoride)	28.29(5)
Potassium toluene sulphonate	29.03(7)
Preparations and charges for fire-extinguishers, not including charged fire-extinguishing grenades	38.17
Preparations for steel manufacture	38.19(1)
Promazine hydrochloride (10-(3-dimethyl-aminopropyl) phenothiazine hydrochloride)	29.35(20)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
n-Propylacetate	29.14(54)
n-Propyl alcohol (1-propanol; propyl alcohol)	29.04(13)
Propylene glycol (1,2-propylene glycol; 1,2-dihydroxypropane; methylethylene glycol; methyl glycol; 1,2-propanediol)	29.04(14)
Propylene oxide (1,2-epoxypropane)	29.09(4)
Propyl gallate	29.16(26)
Refined glycerine, other than analytical grade	15.11(2)
Residual lyes from the manufacture of wood pulp by the alkali or sulphate processes and their skimmings, dried or not	+38.19(11)
Resin mastics and cements, sealing compounds, sealers and sealants, containing natural resin, other than sealing wax	32.12(1)
Rubber accelerators, prepared	38.15
Rubber antioxidant preparations	38.19(1)
Rutin (melin; quercetin-3-rutinoside)	29.41(3)
Salts of fatty amines	34.02
Selenium	+28.04(8)
Selenium diethyl dithiocarbamate	29.31(8)
Silicon or "silicon metal" other than the grade for use in the manufacture of safety fuses	28.04(1)
Silver bromide	+28.49(6)
Silver chloride	+28.49(7)
Silver cyanide	+28.49(8)
Silver iodide	+28.49(9)
Silver nitrate	+28.49(10)
Sodium acetate	29.14(57)
Sodium aluminate, liquid	+28.47(1)
Sodium amalgam	+28.58(2)
Sodium azide	+28.57(3)
Sodium benzoate	29.14(58)
Sodium carbonate, anhydrous (soda ash), reagent purified powder	28.42(7)
Sodium carbonates, natural	R-12 210b
Sodium carboxymethyl cellulose	39.03(a)3
Sodium citrate (trisodium citrate)	29.16(27)
Sodium dehydrocholate	29.16(28)
Sodium diethyl dithiocarbamate	29.31(10)
Sodium dimethyl dithiocarbamate	29.31(11)
Sodium dodecylbenzene sulphonate	29.03(8)
Sodium fluoroborate (sodium fluoborate)	28.29(7)
Sodium hexametaphosphate (sodium metaphosphate; glassy sodium metaphosphate), soluble	28.40(3)
Sodium iodide	28.34(5)
Sodium isopropyl xanthate	29.31(12)
Sodium lauryl ether sulphate	+29.17(1)
Sodium lauryl sulphate	34.02
Sodium lauryl sulphate, other than pharmacopoeia grades	29.17(8)
Sodium N-methyl-N-oleoyl taurate (oleyl methyl tauride)	29.25(12)
Sodium pentachlorophenate	29.07(5)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
Sodium phosphate, tribasic (sodium phosphate, tertiary; trisodium orthophosphate; trisodium phosphate), commercial grade	28.40(6)
Sodium propionate	29.14(60)
Sodium pyrophosphate, normal (sodium pyrophosphate, tetrabasic; tetrasodium pyrophosphate), other than A.R., C.P. and pharmacopoeial grades	28.40(7)
Sodium sulphate (Glauber's salt)	37.08
Sodium sulphate, neutral, C.P., N.F. and anhydrous low nitrogen grades	28.38(18)
Sodium sulphate, neutral, hydrated (Glauber's salt), C.P. and N.F. grades	28.38(18)
Sodium thiosulphate (antichlor; hypo; sodium subsulphite)	37.08
Sodium thiosulphate (antichlor; sodium hyposulphite; sodium subsulphite), other than anhydrous	28.37(5)
Sodium toluene sulphonate	29.03(9)
	34.02
Sodium tripolyphosphate (pentasodium triphosphate; sodium triphosphate)	28.40(8)
Sodium xylene sulphonate	29.03(10)
	34.02
Sorbitol (d-sorbite; d-sorbitol; sorbol; hexahydric alcohol)	29.04(15)
Sorbitol fatty acid esters	38.19(1)
Soya fatty acid	15.10(2)
Stannous fluoroborate	28.29(8)
Stannous octoate (stannous 2-ethylhexanoate)	29.14(62)
Stearyl sulphate	29.17(12)
Styrene (cinnamene; cinnamol; phenylethylene; styrene monomer; styrol; styrolene; vinylbenzene)	29.01(19)
Sulphadiazine (para-aminobenzenesulphonamidopyrinidine)	29.36(4)
Sulphonaphthenic acid and its salts	38.19(1)
Sulphur dioxide (sulphurous acid anhydride; sulphurous oxide)	+28.07
Tankage	+31.00(2)
Tar wood, (except pine tar)	+38.09
Tellurium	+28.04(9)
p-Terphenyl (1,4-diphenylbenzene)	29.01(20)
Tetracycline	29.44(4)
Tetracycline hydrochloride	29.44(4)
Tetraethylthiuram disulphide (bis(diethylthiocarbamyl)disulphide; disulfiram; TTD; TETD)	+29.31(1)
Tetramethylthiuram disulphide (bis(dimethylthiocarbamyl)disulphide; thiram; thiuram; TMTD)	29.31(13)
Tetramethylthiuram monosulphide (bis(dimethylthiocarbamyl) sulphide)	29.31(14)
Thorium oxide (thoria; thorium anhydride; thorium dioxide)	28.52(2)
Tin amalgam	+28.58(2)
Toluene (methylbenzene; methylbenzol; phenylmethane; toluol)	+29.01(21)
Toluene-di-isocyanates (toluene-2,4-di-isocyanate; 2,4-tolylene di-isocyanate; meta tolylene di-isocyanate; toluene 2,6-di-isocyanate and mixtures of these isomers), of a kind made in Canada	29.30(2)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
Triamcinolone (9-alpha-fluoro-16-alpha-hydroxy-delta-hydrocortisone; 9-alpha-fluoro-16-alpha-hydroxyprednisolone; 9-fluoro-11-beta-16,17,21-tetrahydroxy-pregna-1,4-diene-3,20-dione)	29.39(6)
1,1,1-Trichloroethane (methylchloroform)	29.02(14)
Trichloroethylene	+29.02(15)
Trichloromonofluoromethane	29.02(4)
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	29.16(30)
Trichlorotrifluoroethane	29.02(3)
Triethanolamine (TEA; tri-(2-hydroxyethyl)-amine)	29.23(4)
Triethyl aluminum	29.34(4)
Triethylene glycol (TEG; trigol)	29.08(18)
Triethylene glycol monobutyl ether	29.08(19)
Triethylene glycol monoethyl ether (ethoxytriglycol)	29.08(20)
Triethylene glycol monomethyl ether	29.08(21)
Tri-isobutyl aluminum	29.34(5)
Tripentaerythritol	29.08(23)
Trypsin	29.40(8)
Urea (carbamide; carbonyl diamide), containing, in the dry state, more than 45 per cent by weight of nitrogen, whether or not coated or prilled	+29.25(14)
Urea containing, in the dry state, not more than 45 per cent by weight of nitrogen, whether or not coated or prilled	+31.00(2)
Vanillin (methylprotocatechualdehyde; 3-methoxy-4-hydroxybenzaldehyde; vanillic aldehyde)	29.11(10)
Vasopressin (antidiuretic hormone; betahypophamin; extract, pituitary body, posterior lobe, pitressin)	29.39(7)
Vinyl acetate	29.14(63)
Vinyl chloride (monochloroethylene; chloroethane; chloroethylene)	29.02(16)
Vitamin A acetate for use other than in the production of food products for human consumption	29.38(4)(b)
Vitamin A palmitate for use other than in the production of food products for human consumption	29.38(4)(b)
Vitamin B ₃ , derivative of, calcium pantothenate	29.38(5)
Vitamin B ₆ , derivative of, pyridoxine hydrochloride (adermine hydrochloride; hexabione hydrochloride; vitamin B ₆ hydrochloride)	29.38(6)
Vitamin B ₁₂ , crystalline	29.38(7)
Vitamin C (ascorbic acid)	29.38(8)
Vitamin C, derivative of, sodium ascorbate	29.38(8)
Vitamin D ₃ (cholecalciferol; 7-dehydrocholesterol, irradiated)	29.38(9)
Volcanic minerals, activated, such as perlite	+38.03(1)
Warfarin (3-(alpha-acetonylbenzyl)-4-hydroxycoumarin)	29.35(21)
Waxes containing synthetic wax	+R-39(1)
Xylene (dimethylbenzene)	+29.01(22)
Xylenols (dimethylhydroxybenzene; dimethylphenol; hydroxymethylbenzene)	29.06(12)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>711 (71100-1) (Cont'd)</u>	
Zinc amalgam	+28.58(2)
Zinc dibutyl dithiocarbamate	29.31(15)
Zinc diethyl dithiocarbamate	29.31(16)
Zinc dimethyl dithiocarbamate (ziram)	29.31(17)
Zinc laurate	29.14(64)
Zinc mercaptobenzothiazole	29.35(22)
Zinc naphthenate	38.19(1)
Zinc stearate	29.14(65)

A number of products listed above are shown as being classified in more than one heading, depending upon form or use. In other cases, products shown as being in divisions of Recommended Items derived from Chapter 29 of the B.T.N. will only fall into these items when of sufficient chemical purity.

Material listed above, when for the appropriate uses, would be in Recommended Items R-31 663b, R-35 791, 31.00 or 38.11 rather than those shown above.

Any material now in tariff item 711 that is more specifically described in any Recommended Item would be in that Recommended Item. This would include all materials listed in Department of National Revenue, Customs and Excise, Memorandum D51-33, except those appearing therein because they are drugs of a kind made in Canada.

Imports under this item are estimated to have been about \$50 million in 1964 and about \$58 million in 1965, when over 90 per cent was from M.F.N. countries.

Available information indicated that possibly 50 per cent (nearly \$30 million) of the 1965 imports is relevant to Reference 120.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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Ex. 711

Higher fatty alcohols, unsulphated, when imported by manufacturers of synthetic detergents for use exclusively in the manufacture of synthetic detergents in their own factories:

per gallon
1/3¢ 1/3¢ 25
or when 15 p.c. is
less than 1/3¢ the
15 p.c. applies to
B.P. countries

This provision has been inoperative since the introduction into the Tariff of item 865 (86500-1); see the latter item for the list of products.

Ex. 711 (20839-3)

Mono-glyceride emulsifiers:	Free	5	25
Glycerol mono-oleate (glyceryl mono-oleate)		29.14(34)	10 15 25
Glycerol monostearate (glyceryl monostearate; monostearin)		29.14(35)	10 15 25
Mono-glyceride emulsifiers		38.19(1)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>Ex. 711 (20839-4)</u>			
Wollastonite:	5 5 25	R-19 *295a	Free Free Free
<u>Ex. 711 (20839-5)</u>			
Cobalt metal, in lumps, powder, ingots, block or bars:	10 10 25		
Cobalt metal in lumps, powder, ingots or blocks		R-36(3)	Free 10 25
<u>Ex. 711 (20839-5)</u> would remain in the Tariff only as an extract of 711 and not of 208t; as such, it would continue to apply to cobalt bars.			
<u>Ex. 711 (21600-2)</u>			
Chromium trioxide, dihydroxydiphenyl sulphone, monobutyl phenylphenol sodium monosulfonate, phenol sulphonic acid and stannous sulphate, imported for use exclusively in the production of tin plate:	Free Free 25		
Chromium trioxide (chromic acid; chromic anhydride)		28.21(3)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>		<u>Recommended Items</u>	<u>Recommended Rates</u>	
<u>Ex. 711 (21600-2) (Cont'd)</u>					
Dihydroxydiphenyl sulphone			29.31(1)	Free	15 25
Monobutyl phenylphenol sodium monosulphonate			29.07(1)	Free	15 25
Phenolsulphonic acid (sulphocarbollic acid)			29.07(4)	10	15 25
Stannous sulphate			28.38(1)	Free	15 25
<u>Ex. 711 (22005-2)</u>					
Hydrolized animal matter for use as retarder for calcined gypsum:	10	10 25	38.19(8)	10	10 25
					275
<u>Ex. 711 (71100-7)</u>					
Synthetic wax:	15	15 25	R-39(1)	15	15 25

Imports under this item are estimated to have been under half a million dollars in 1964 and in 1965 when most were from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>728 (72800-1)</u> Hyposulphite of soda, when imported by tanners for use in their own factories, in the tanning of leather:	Free 10 10		
Sodium thiosulphate (antichlor; sodium hyposulphite; sodium subsulphite): anhydrous other than anhydrous		28.37(1) 28.37(5)	Free 15 25 10 15 25
<u>Imports</u> under this item are estimated to have been negligible in 1965.			
<u>729 (72900-1)</u> Sodium hexametaphosphate when imported by tanners for use exclusively in the tanning of leather, in their own factories:	Free Free 25		
Sodium hexametaphosphate (sodium metaphosphate; glassy sodium metaphosphate)		28.40(3)	10 15 25

There are no known imports under this item.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>758 (75800-1)</u>			
Binitrotoluol, trinitrotoluol and perchlorate of ammonia, when imported by manufacturers of explosives for use exclusively in the manufacture of such articles in their own factories:	Free Free Free		
Ammonium perchlorate		28.32(1)	Free 15 25
Dinitrotoluene (DNT; dinitrotoluol)		29.03(4)	10 15 25
Trinitrotoluene (TNT; methyltrinitrobenzene; trinitrotoluol)		29.03(12)	10 15 25
<u>Imports under this item are estimated to have been about a quarter of a million dollars in 1965, all from M.F.N. countries.</u>			
<u>761 (76100-1)</u>			
Collodion and emulsions thereof, iodizers for collodion, and stripping solutions, when imported for use exclusively by photo-engravers, lithographers, roto-gravure printers, or engravers of copper rollers, in their manufacturing operations:	15 17½ 17½		
Collodions		39.03(b)	7½ 7½ 20
		39.03(d)	7½ 7½ 20
Emulsions of collodion		37.08	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
761 (76100-1) (Cont'd)			
Iodizers for collodion		37.08	10 15 25

It is understood that this item relates to an obsolete process and that it has been inoperative for some years.
There are no known imports under this item.

791 (79100-1)

Materials of all kinds for use in producing or manufacturing preparations provided for in tariff items 209b and 219a under such regulations as the Minister may prescribe:

All goods

Free Free Free
R-35 791 Free Free Free

Imports under this item are estimated to have been about \$7 million in 1965, about 85 per cent from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
805 (80500-1)			
Materials to be used as adhesives in cementing together glass sheets, when imported by manufacturers of safety or non-shatterable laminated glass, for use exclusively in the manufacture of such glass in their own factories:	Free Free 25		
Polyvinyl butyral type sheets		39.02(g)1	Free Free 10

It is understood that this is the only product now being admitted under this item.

Imports under this item are reported to have been about \$1.7 million in 1964 and about \$3 million in 1965; practically all imports were from M.F.N. countries in each of the two years.

809 (80900-1)

Cocoa residues, containing not more than five per cent by weight of fat, when imported by manufacturers of chemicals for use in the manufacture of theobromine and caffeine, in their own factories:

Free Free Free

The Board understands that neither theobromine nor caffeine are produced in Canada; as a result the item is inoperative and no recommendation has been made for the cocoa residues provided for in item 809. There are no known imports under this item.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
822 (82200-1)			
Sheet cellulose acetate, in rolls, when imported by manufacturers of sensitized photographic film, for use exclusively in the manufacture of sensitized photographic film in their own factories:	Free Free Free		
Cellulose acetate photographic base film		39.03(g)1	Free Free 10
<u>Imports under this item are estimated to have been over one million dollars in 1965, all from M.F.N. countries.</u>			
833 (83300-1)			
Methyl ethyl ketone imported by Canadian manufacturers under such regulations as the Minister may prescribe, for use exclusively as a solvent for polyvinyl chloride:	Free Free 25		
Ethylmethyl ketone (butanone; methyl-ethylketone)		29.13(7)	10 15 25
<u>There are no known imports under this item.</u>			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
851 (85100-1) (Unchanged)			
Materials for use in the manufacture of synthetic rubber:	Free Free Free		
<p>Any change in the administration of the rubber items resulting from a definition of synthetic rubber would be reflected in the coverage of this item.</p> <p>Imports under this item are estimated to have been about \$11 million in 1965, almost all from M.F.N. countries.</p>			
857 (85700-1)			
Acetylsulphamerazine, acetylsulphadiazine, acetylsulphathiazole and acetylsulphamethylthiodiazole, for use exclusively in the manufacture of sulpha drugs:	Free Free 25		
Acetylsulphadiazine		29.36(1)	Free 15 25
Acetylsulphamerazine		29.36(1)	Free 15 25
Acetylsulphamethyl thiodiazole		29.36(1)	Free 15 25
Acetylsulphathiazole		29.36(1)	Free 15 25

Imports under this item are estimated to have been small in 1965.

Existing Item	Existing Rates	Recommended Items	Recommended Rates
863 (86300-1)			
Chemicals for use in the manufacture of steroid derivatives:	Free	Free	25
Acetone (dimethylketone; ketopropane; 2-propanone; pyroacetic ether)		29.13(2)	10
12a-Acetoxypregnan-3,20-dione		29.14(4)	10
Benzene (benzol)		29.01(3)	Free
Benzilic acid		29.16(1)	Free
Bromine		28.01(1)	Free
Cetyl alcohol (alcohol C-16; cetylic alcohol; 1-hexadecanol; normal primary hexadecyl alcohol; palmityl alcohol)		29.04(1)	Free
Cholic acid		29.16(8)	10
7-Dehydro-beta-sitosterol, non-irradiated (see provitamin D ₅)			25
3a,12a-Diacetoxypregnan-20-one		29.14(25)	10
Dicyandiamide (cyanoguanidine)		29.27(5)	10
22-23-Dihydroergosterol, non-irradiated (see provitamin D ₄)			25
3,6a-Dihydroxypregnan-20-one		29.13(5)	10
Di-isopropyl ether (isopropyl ether)		29.08(1)	Free
Epinephrine racemic		29.39(1)	Free
Equilenin		29.39(1)	Free
Equilin		29.39(1)	Free
Estradiol (see oestradiol)			25
Estrone (see oestrone)			25
Ether (diethyl ether; diethyl oxide; ethyl ether; ethyl oxide; sulphuric ether)			25
		29.08(13)	10

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>863 (86300-1) (Cont'd)</u>			
Hydrazine hydrate (diamide hydrate)			
3b-Hydroxy-5-cholenic acid		28.28(1)	Free 15 25
17-alpha-Hydroxycorticosterone (see hydrocortisone)		29.16(17)	10 15 25
Hydrocortisone (compound F; cortisol; hydrocortisone alcohol; 17-hydroxycorticosterone)		29.39(1)	Free 15 25
Hydrocortisone alcohol (see hydrocortisone)			
17-beta-Hydroxy-2-hydroxymethylene-17-alpha-methyl-5-alpha-androstan-3-one		29.13(1)	Free 15 25
17-beta-Hydroxy-17-alpha-methylandrosta-1,4-dien-3-one (methandienone)		29.13(1)	Free 15 25
12a-Hydroxypregnan-3,20-dione		29.13(8)	10 15 25
11a-Hydroxypregn-4-ene-3,20-dione		29.13(1)	Free 15 25
Hydroxyprogesterone		29.13(1)	Free 15 25
17-beta-Hydroxy-17-alpha-1-ynyloestr-4-en-3-one		29.13(1)	Free 15 25
Hyocholic acid		29.16(19)	10 15 25
Hyodesoxycholic acid		29.16(20)	10 15 25
Iodine, crude		28.01(1)	Free Free Free
2-Methylhydrocortisone		29.39(1)	Free 15 25
6-Methyl-delta-1-hydrocortisone (6-alpha-methylprednisolone)		29.39(1)	Free 15 25
6-alpha-Methylprednisolone (see 6-methyl-delta-1-hydrocortisone)			
Oestradiol (dihydrofolliculin; estradiol)		29.39(1)	Free 15 25
Oestrone (estrone; folliculin; alpha-follicular hormone; oestrin; theelin)		29.39(1)	Free 15 25
5B-Pregnan-3a-ol-20-one (epipregnanolone)		29.13(13)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
865 (86500-1)			
Higher fatty alcohols, unsulphated, for use in the manufacture of synthetic detergents:	Free Free 25		
Cetyl alcohol		15.10(3)	Free Free Free
Cetyl alcohol (alcohol C-16; cetylic alcohol; l-hexadecanol; normal primary hexadecyl alcohol; palmityl alcohol)		29.04(1)	Free 15 25
Lauryl alcohol		15.10(3)	Free Free Free
Mixtures of primary aliphatic alcohols		15.10(3)	Free Free Free
Myristic alcohol		15.10(3)	Free Free Free
Octanols (octyl alcohols)		29.04(11)	10 15 25
Oleyl alcohol (octadecanol)		15.10(3)	Free Free Free
Stearyl alcohol		15.10(3)	Free Free Free
Stearyl alcohol (1-octadecanol; octadecyl alcohol)		29.04(1)	Free 15 25
Tridecanol (tridecyl alcohol)		29.04(1)	Free 15 25

Imports under this item are estimated to have been nearly \$2.5 million in 1965, almost all from M.F.N. countries.

866 (Cancelled)

Expired or cancelled item

Dec. 31/57

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>867 (Cancelled)</u>			
Expired or cancelled item			
July 1/57			
<u>875a (87505-1)</u>			
Amyl acetate, calcium carbonate, casein hydrolysates, cholesterol, ergosterol, ether U.S.P., methanol anhydrous, methyl isobutyl carbonyl acetate, N-ethyl piperidine, N-hexanol, procaine hydrochloride, penicillin precursors, beef extract, corn steep liquor, soluble vegetable protein, distillers' dried solubles, and soya bean meal, all of the foregoing for use in the manufacture of antibiotics, bacteriologicals, hormone products and biologicals:	Free Free 25		
Acetanilide (antifebrin; N-phenylacetamide)		29.25(1)	Free 15 25
Amyl acetate (amyl acetic ester; banana oil; pear oil)		29.14(1)	Free 15 25
Calcium carbonate, precipitated, pharmaceutical grade		28.42(1)	Free 15 25
Cholesterol		29.05(1)	Free 15 25
Culture media for development of micro-organisms, prepared		38.16	Free Free Free
N,N'-Dibenzylethylenediamine diacetate		29.22(1)	Free 15 25
Ergosterin, non-irradiated (see provitamin D ₂)			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>875a (87505-1) (Cont'd)</u>			
Ergosterol, non-irradiated (see provitamin D ₂)			
Ether (diethyl ether; diethyl oxide; ethyl ether; ethyl oxide; sulphuric ether)		29.08(13)	10 15 25
N-Ethyl piperidine		29.35(1)	Free 15 25
Hexanol (hexyl alcohol)		29.04(1)	Free 15 25
Methyl alcohol (carbinol; methanol; wood alcohol)		29.04(8)	5 10 20
Methylamyl acetate (methylisobutyl carbinol acetate)		29.14(50)	10 15 25
Phenylacetamide (see acetanilide)		29.14(1)	Free 15 25
Phenylacetic acid (alpha-toluic acid)		29.22(1)	Free 15 25
b-Phenylethylamine		29.14(1)	Free 15 25
Potassium phenylacetate			
Procaine base (para-aminobenzoyl-diethylaminoethanol base; 2-diethyl-aminoethyl-para-aminobenzoate)		29.23(1)	Free 15 25
Procaine hydrochloride (para-amino-benzoyldiethylamino-ethanol hydrochloride; diethylaminoethyl para-aminobenzoate hydrochloride; ethocaine; kerocaine; procaine)		29.23(1)	Free 15 25
Provitamin D ₂ (ergosterin, non-irradiated; ergosterol, non-irradiated)		29.38(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
875a (87505-1) (Cont'd)			
Materials of this item not listed above would be in the appropriate Recommended Items or in other items of the existing tariff.			
Imports under this item are estimated to have been less than a quarter of a million dollars in 1965, essentially all from M.F.N. countries.			
875b (87510-1)			
Antibiotics, crude, and antibiotic intermediates, structurally based on 6 amino-penicillanic acid, not further processed than extracted from their primary fermentation liquors, in crystalline form, of a kind not produced in Canada, for use in the manufacture of antibiotics:	Free		Free 25
N'-Ethyl-piperidine penicillin, crude (see penicillin, crude)		29.44(1)	Free 15 25
Penicillin, crude			

Imports under this item are estimated to have been less than half a million dollars in 1965, mostly from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>		<u>Recommended Items</u>	<u>Recommended Rates</u>		
<u>901(a)</u>						
Synthetic resins without admixture, including scrap or waste:						
<u>901(a)1 (90101-1)</u>						
Phenol-aldehyde type	7½	7½	17½			
Phenol formaldehyde type			39.01(a)5	10	10	20
<u>901(a)2 (90102-1)</u>						
Amino-aldehyde type	Free	Free	10			
Melamine formaldehyde type			39.01(a)4	10	10	20
Urea formaldehyde type			39.01(a)12	7½	7½	20
<u>901(a)3 (90103-1)</u>						
Polyester type	5	5	15			
Alkyd type			39.01(a)2	10	10	20
Polyethylene terephthalate type			39.01(a)10	10	10	20
Unsaturated polyester type			39.01(a)11	10	10	20
<u>901(a)4 (90104-1)</u>						
Polyamide type	Free	Free	10			
Epoxy resin curing agents			38.19(1)	10	15	25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>901(a)4 (90104-1) (Cont'd)</u>			
Polyamide epichlorohydrin type		39.01(a)6	7½ 7½ 20
Polyamide type, other than enumerated in Rec. Item 39.01(a)		39.01(a)7	10 10 20
Polycaprolactam type		39.01(a)8	7½ 7½ 20
<u>901(a)5 (90105-1)</u>			
Polystyrene type	7½ 7½ 17½	39.02(a)6	10 10 20
Styrene-acrylonitrile type, predominantly of styrene		39.02(a)9	10 10 20
<u>901(a)6 (90106-1)</u>			
Vinyl type, except vinylidene	5 5 15		
Polyvinyl acetate type		39.02(a)7	10 10 20
Polyvinyl chloride type, including polyvinyl chloroacetate		39.02(a)8	10 10 20
<u>901(a)7 (90107-1)</u>			
Resins derived from natural resin or tall oil, n.o.p.	Free Free 10		
Alkyd type		39.01(a)2	10 10 20
Modified resins, crude		38.08	Free Free Free
Modified resins (synthetic without admixture)		38.08	Free Free Free

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>		
<u>901(a)7 (90107-1) (Cont'd)</u>					
Phenol formaldehyde type		39.01(a)5	10	10	20
<u>901(a)8 (90108-1)</u>					
Polyethylene type	7½ 7½ 17½	39.02(a)4	7½	7½	20
Polyethylene (wax) of a weight average molecular weight not exceeding 5000		R-39(2)	Free	Free	10
<u>901(a)9 (90109-1)</u>					
Other type	Free Free 10				
Acrylonitrile-butadiene-styrene (ABS) type		39.02(a)2	10	10	20
Dicyclopentadiene dioxide; (1,2;5,6-diepoxy-4,7-methanoperhydroindene)		29.09(1)	Free	15	25
Dipentene dioxide (1,2;8,9-Diepoxy-p-menthane		29.09(1)	Free	15	25
Epoxy type		39.01(a)3	10	10	20
2-(3,4-epoxycyclohexyl)-3',4'-epoxy-1,3-dioxane-5-spirocyclohexane		29.10(1)	Free	15	25
3,4-Epoxy-cyclohexylmethyl-3,4-epoxycyclohexyl carboxylate		29.16(1)	Free	15	25
bis(2,3-Epoxy-cyclopentyl) ether		29.09(1)	Free	15	25
bis(3,4-Epoxy-6-methylcyclohexylmethyl) adipate		29.16(1)	Free	15	25
3,4-Epoxy-6-methylcyclohexylmethyl-3,4-epoxy-6-methylcyclohexane carboxylate		29.16(1)	Free	15	25
Ethylene glycol bis-epoxydicyclopentyl ether (5,5'-(ethylenedioxy) bis(1,2-epoxy-4,7-methanoperhydroindene))		29.09(1)	Free	15	25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
901(a)9 (90109-1) (Cont'd)			
Polypropylene type		39.02(a)5	7½
Rubber antioxidant preparations		38.19(1)	10
Styrene-acrylonitrile type, not predominantly of styrene		39.02(a)9	10
Vinyl cyclohexene dioxide (a,b: 3,4-diepoxy ethylcyclohexane)		29.09(1)	Free
			15
			25

Goods of these items not specifically listed above as being in a Rec. Item would generally be classified under the provision for "Other than the following types" in Rec. Items 39.01(a)1, 39.02(a)1 and 39.05(1), at Free B.P., Free, M.F.N. and 10 p.c., General.

Imports under the existing tariff items are estimated to have been:

- 901(a)1: less than one million dollars in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965
- 901(a)2: about one million dollars in 1965, nearly all under the M.F.N. Tariff
- 901(a)3: less than three million dollars in 1965, nearly all under the M.F.N. Tariff
- 901(a)4: about two million dollars in 1965, nearly all under the M.F.N. Tariff
- 901(a)5: about half a million dollars in 1964 and almost one million dollars in 1965, all under the M.F.N. Tariff in 1965
- 901(a)6: less than \$8 million in 1964 and nearly \$10 million in 1965, about 95 p.c. under the M.F.N. Tariff in 1965
- 901(a)7: nearly \$2 million in 1965, all under the M.F.N. Tariff
- 901(a)8: more than \$5 million in 1965 and less than \$5 million in 1964, nearly all under the M.F.N. Tariff in 1965
- 901(a)9: about \$13 million in 1965, nearly all under the M.F.N. Tariff.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>901(b)</u>			
Synthetic resins in the form of aqueous emulsions, aqueous dispersions or aqueous solutions, without admixture:			
<u>901(b)1 (90111-1)</u>			
Phenol-aldehyde type	7½ 7½ 17½		
Phenol formaldehyde type		39.01(a)5	10 10 20
<u>901(b)2 (90112-1)</u>			
Amino-aldehyde type	Free Free 10		
Melamine formaldehyde type		39.01(a)4	10 10 20
Urea formaldehyde type		39.01(a)12	7½ 7½ 20
<u>901(b)3 (90113-1)</u>			
Polyester type	5 5 15		
Alkyd type		39.01(a)2	10 10 20
Polyethylene terephthalate type		39.01(a)10	10 10 20
Unsaturated polyester type		39.01(a)11	10 10 20
<u>901(b)4 (90114-1)</u>			
Polyamide type	Free Free 10		
Polyamide epichlorohydrin type		39.01(a)6	7½ 7½ 20

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>901(b)4 (90114-1) (Cont'd)</u>			
Polyamide type, other than enumerated in Rec. Item 39.01(a)		39.01(a)7	10 10 20
Polycaprolactam type		39.01(a)8	7½ 7½ 20
<u>901(b)5 (90115-1)</u>			
Polystyrene type	7½ 7½ 17½	39.02(a)6	10 10 20
Styrene-acrylonitrile type, predominantly of styrene		39.02(a)9	10 10 20
<u>901(b)6 (90116-1)</u>			
Vinyl type, except vinylidene	5 5 15		
Polyvinyl acetate type		39.02(a)7	10 10 20
Polyvinyl chloride type, including polyvinyl chloroacetate		39.02(a)8	10 10 20
<u>901(b)7 (90117-1)</u>			
Resins derived from natural resin or tall oil, n.o.p.	Free Free 10		
Alkyd type		39.01(a)2	10 10 20
Phenol formaldehyde type		39.01(a)5	10 10 20
<u>901(b)8 (90118-1)</u>			
Other type	Free Free 10		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>901(b)8 (90118-1) (Cont'd)</u>			
Acrylonitrile-butadiene-styrene (ABS) type		39.02(a)2	10 10 20
Dicyclopentadiene dioxide; (1,2; 5,6-diepoxy-4,7-methanoperhydroindene)		29.09(1)	Free 15 25
Dipentene dioxide (1,2;8,9-diepoxy-p-menthane)		29.09(1)	Free 15 25
Epoxy type		39.01(a)3	10 10 20
2-(3,4-epoxycyclohexyl)-3',4'-epoxy-1,3-dioxane-5-spirocyclohexane		29.10(1)	Free 15 25
3,4-Epoxy-cyclohexylmethyl-3,4-epoxy cyclohexyl carboxylate		29.16(1)	Free 15 25
bis(2,3-Epoxy-cyclopentyl) ether		29.09(1)	Free 15 25
bis(3,4-Epoxy-6-methylcyclohexylmethyl) adipate		29.16(1)	Free 15 25
3,4-Epoxy-6-methylcyclohexylmethyl-3,4-epoxy-6-methylcyclohexane carboxylate		29.16(1)	Free 15 25
Ethylene glycol bis-epoxydicyclopentyl ether (5,5'-(ethylenedioxy) bis(1,2-epoxy-4,7-methanoperhydroindene)		29.09(1)	Free 15 25
Polyacrylic type, including polymethacrylic, emulsions or dispersions			
Polyethylene type		39.02(a)3	7½ 7½ 20
Polypropylene type		39.02(a)4	7½ 7½ 20
Styrene-acrylonitrile type, not predominantly of styrene		39.02(a)5	7½ 7½ 20
Vinyl cyclohexene dioxide (a,b:3,4-diepoxy ethylcyclohexane)		39.02(a)9	10 10 20
		29.09(1)	Free 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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901(b)8 (90118-1) (Cont'd)

Goods of these items not specifically listed above as being in a Rec. Item would generally be classified under the provision of "Other than the following types" in Rec. Items 39.01(a)1, 39.02(a)1 and 39.05(1), at Free, B.P., Free, M.F.N. and 10 p.c., General.

Imports under the existing tariff items are estimated to have been:

- 901(b)1: more than \$100,000 in 1965, about 90 per cent under the M.F.N. Tariff
- 901(b)2: about one million dollars in 1965, nearly all under the M.F.N. Tariff
- 901(b)3: small in 1964 and 1965, all under the M.F.N. Tariff in 1965
- 901(b)4: more than \$100,000 in 1965, all under the M.F.N. Tariff
- 901(b)5: about half a million dollars in 1964 and about one quarter of a million dollars in 1965, all under the M.F.N. Tariff in 1965
- 901(b)6: about \$750,000 in 1964 and more than one million dollars in 1965, all under the M.F.N. Tariff in 1965
- 901(b)7: less than \$50,000 in 1965, all under the M.F.N. Tariff
- 901(b)8: more than two million dollars in 1965, more than 95 per cent under the M.F.N. Tariff.

901(c)

Synthetic resins in organic solvents where the solvent is not more than 60 per cent by weight, without other admixture:

<u>901(c)1 (90121-1)</u>	12½	12½	22½
Phenol-aldehyde type			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>901(c)1 (90121-1) (Cont'd)</u>			
Phenol formaldehyde type		39.01(b)5	12½ 12½ 25
<u>901(c)2 (90122-1)</u>			
Amino-aldehyde type	12½ 12½ 22½		
Melamine formaldehyde type		39.01(b)4	12½ 12½ 25
Urea formaldehyde type		39.01(b)9	10 10 20
<u>901(c)3 (90123-1)</u>			
Polyester type	12½ 12½ 22½		
Alkyd type		39.01(b)2	12½ 12½ 25
Polyethylene terephthalate type		39.01(b)7	12½ 12½ 25
Unsaturated polyester type		39.01(b)8	12½ 12½ 25
<u>901(c)4 (90124-1)</u>			
Resins derived from natural resin or tall oil, n.o.p.	12½ 12½ 22½		
Alkyd type		39.01(b)2	12½ 12½ 25
<u>901(c)5 (90125-1)</u>			
Other type	10 10 20		
Additives for mineral oils, prepared Epoxy type		38.14(1) 39.01(b)3	10 15 25 12½ 12½ 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>901(c)5 (90125-1) (Cont'd)</u>			
Polyamide type		39.01(b)6	12½ 25
Polystyrene type		39.02(b)2	12½ 25
Polyvinyl acetate type		39.02(b)3	12½ 25
Polyvinyl chloride type, including polyvinyl chloroacetate		39.02(b)4	12½ 25

Goods of these items not specifically listed above as being in a Rec. Item would generally be classified under the provision for "Other than the following types" in Rec. Items 39.01(b)1 and 39.02(b)1 or in 39.05(2) at 7½ p.c., B.P., 7½ p.c., M.F.N. and 20 p.c., General.

The resins of existing item 901(c) which contain solvent in excess of 50 per cent of the weight of the solution would be classified in Rec. Item 32.09.

Imports under the existing tariff items are estimated to have been:

- 901(c)1: less than half a million dollars in 1964 and more than \$300,000 in 1965, all under the M.F.N. Tariff in 1965
- 901(c)2: less than \$500,000 in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965
- 901(c)3: nearly three quarters of a million dollars in 1964 and nearly \$1.5 million in 1965, nearly all under the M.F.N. Tariff in 1965
- 901(c)4: more than \$100,000 in 1965, all under the M.F.N. Tariff
- 901(c)5: nearly \$2.5 million in 1964 and 1965, nearly all under the M.F.N. Tariff

901(d)

Synthetic resins, in powder or granular form, containing an ingredient to prevent caking

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>901(d) (Cont'd)</u>			
in shipment, not in excess of 3 per cent by weight, but without further admixture:			
<u>901(d)1 (90131-1)</u>			
Amino-aldehyde type	Free		10
Melamine formaldehyde type		39.01(a)4	10
Urea formaldehyde type		39.01(a)12	7½ 20
<u>901(d)2 (90132-1)</u>			
Other type	10		10 20

Existing item 901(d)2 provides for synthetic resins, other than the amino-aldehyde type, containing an ingredient to prevent caking in shipment; it is understood that few normally require such an anticaking ingredient; if imported, such resins would be classified according to type in Rec. Item 39.01(a).

Imports under the existing tariff items are estimated to have been:

- 901(d)1: small in 1965, all under the M.F.N. Tariff
- 901(d)2: small in 1965, all under the M.F.N. Tariff

The goods listed in existing items 901(a), 901(b) and 901(d) would be classified principally in Rec. Items 39.01(a) and 39.02(a), and to a lesser extent in 39.05. The Rec. Items would provide for products without admixture except for an ingredient necessary to prevent caking in shipment with no percentage limitation of the ingredient.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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902

Synthetic resins, compounded with other materials, in any form, including scrap or waste, for moulding, casting, extruding, calendering, pressing, (moulding compositions or materials for processing into moulding compositions); synthetic resins compounded with other materials in the form of not fully cured preforms or not fully cured blanks for compression mouldings:

902(a) (90201-1)

Phenol-aldehyde type

Phenol formaldehyde type

902(b) (90202-1)

Polyester type

Unsaturated polyester type

902(c) (90203-1)

Polystyrene type

Styrene acrylonitrile type, predominantly of styrene

10	15	25		
			39.01(c)4	12½ 12½ 25
5	5	15		
			39.01(c)8	12½ 12½ 25
10	10	20		
			39.02(c)5	12½ 12½ 25
			39.02(c)8	12½ 12½ 25

<u>Existing Item</u>	<u>Existing Rates</u>			<u>Recommended Items</u>	<u>Recommended Rates</u>		
<u>902(d) (90204-1)</u>							
Vinyl type, except vinylidene	10	10	20				
Polyvinyl acetate type				39.02(c)6	12½	12½	25
Polyvinyl chloride type, including polyvinyl chloroacetate				39.02(c)7	12½	12½	25
<u>902(e) (90205-1)</u>							
Polyethylene type	10	10	20	39.02(c)3	10	10	20
<u>902(f) (90206-1)</u>							
Other type	Free	Free	10				
Acrylonitrile-butadiene-styrene (ABS) type				39.02(c)2	12½	12½	25
Epoxy type				39.01(c)2	12½	12½	25
Melamine formaldehyde type				39.01(c)3	12½	12½	25
Polyamide type				39.01(c)5	12½	12½	25
Polypropylene type				39.02(c)4	10	10	20
Polyurethane type				39.01(c)6	7½	7½	25
Silicones				39.01(c)7	7½	7½	25
Styrene acrylonitrile type, not predominantly of styrene				39.02(c)8	12½	12½	25
Urea formaldehyde type				39.01(c)9	10	10	25

Goods of these items not specifically listed above as being in a Rec. Item would generally be classified under the provision for "Other than the following types" in Rec. Items 39.01(c)1, 39.02(c)1 and 39.05(1), at Free, B.P., Free, M.F.N. and 10 p.c., General.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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902(f) (90206-1) (Cont'd)

Imports under the existing tariff items are estimated to have been:

- 902(a): nearly three quarters of a million dollars in 1964 and more than half a million dollars in 1965, nearly all under the M.F.N. Tariff
- 902(b): about a quarter of a million dollars in 1964 and more than \$300,000 in 1965, all under the M.F.N. Tariff in 1965
- 902(c): more than one million dollars in 1964 and nearly two million dollars in 1965, all under the M.F.N. Tariff in 1965
- 902(d): more than \$1.5 million in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965
- 902(e): more than one million dollars in 1964 and 1965, about 90 per cent under the M.F.N. Tariff in 1965
- 902(f): less than five million dollars in 1965, about 80 per cent under the M.F.N. Tariff.

903 (90300-1)

Synthetic resin glues or adhesives, composed of synthetic resins compounded with other materials

15	17½	27½	15	17½	25
			39.01(e)	15	17½
			39.02(e)		25

Resin mastics and cements, sealing compounds, sealers and sealants, containing natural resin, other than sealing wax

	32.12(1)	10	15	25
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Imports under the existing tariff item are estimated to have been:

- 903: more than \$1.5 million in 1964 and more than \$2 million in 1965, about 85 per cent under the M.F.N. Tariff in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>		<u>Recommended Items</u>	<u>Recommended Rates</u>		
<u>904 (90400-1)</u>						
Synthetic resin compositions, n.o.p.	15	15	25	39.01(d)	15	15
				39.02(d)	15	15
				39.05(3)	7½	20
Additives for mineral oils, containing synthetic resin compositions, prepared				38.14(1)	10	15
Anti-slip transmission belt preparations				38.19(1)	10	15
Carbon blocks, plates, bars and similar semi-manufactures				38.19(1)	10	15
Foundry core binders based on natural resinous products (containing synthetic resin)				38.10	Free	Free
Foundry core binders not based on natural resinous products				38.19(1)	10	15
Glazings and dressings, prepared, containing synthetic resin compositions, of a kind used in the textile, paper, leather and like industries				38.12(1)	10	15
Mastics based on sodium silicate, zinc oxychloride, magnesium oxychloride, sulphur, zinc oxide and glycerol, containing synthetic resin, excluding mastics based on rubber				32.12(1)	10	15
Pigment dispersions				32.09(1)	10	15
Resin mastics and cements, sealing compounds, sealers and sealants, containing synthetic resins, other than sealing wax				32.12(1)	10	15
Solutions of synthetic resin in volatile organic solvents, when the weight of the solvent exceeds 60 per cent of the weight of the solution				32.09(1)	10	15

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>204 (90400-1) (Cont'd)</u>			
Wax, synthetic		R-39(1)	15 15 25
Waxes containing synthetic wax		R-39(1)	15 15 25
<u>204a (90405-1)</u>			
Compounds, n.o.p., consisting in chief part of synthetic resins, for use in the manufacture of chewing gum	5 5 25	39.05(3)	7½ 7½ 20

Imports under the existing tariff items are estimated to have been:

904: more than \$3 million in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965
904a: about one million dollars in 1964 and about half a million dollars in 1965, all under the M.F.N. Tariff in 1965.

205

Synthetic resin plates, sheets, film, sheeting or strips, not less than 6 inches in width, n.o.p.; synthetic resin lay-flat tubing, not less than 6 inches in circumference, n.o.p.:-

205(a) (90501-1)

Phenol-aldehyde type, not further manufactured than cast

Free Free 10

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>905(a) (90501-1) (Cont'd)</u>			
Phenol formaldehyde type		39.01(g)4	17½ 17½ 25
<u>905(b) (90502-1)</u>			
Acrylic type, not further manufactured than moulded or cast	Free Free 10		
Polymethyl methacrylate type plates, sheets, film, sheeting and strip		39.02(g)4	10 10 20
<u>905(c)</u>			
Polyethylene type:			
<u>905(c)1 (90503-1)</u>			
Plain, uncoated, undecorated	12½ 12½ 20	39.02(g)3	15 15 25
<u>905(c)2 (90504-1)</u>			
Other	15 15 25	39.02(g)3	15 15 25
<u>905(d)</u>			
Vinyl type, except vinylidene:			
<u>905(d)1 (90505-1)</u>			
Plain, uncoated, undecorated	15 15 25		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>905(d)1 (90505-1) (Cont'd)</u>			
Polyvinyl chloride type (including polyvinyl chloroacetate)		39.02(g)8	17½ 17½ 25
<u>905(d)2 (90506-1)</u>			
Other	15 20 30		
Polyvinyl chloride type (including polyvinyl chloroacetate) plates, sheets, film, sheeting, strip, lay-flat or other tubing, other than plain, uncoated, undecorated		39.02(g)7	17½ 20 25
<u>905(e)</u>			
Vinyl type, vinylidene:			
<u>905(e)1 (90507-1)</u>			
Plain, uncoated, undecorated	Free Free 10	39.02(g)1	Free Free 10
<u>905(e)2 (90508-1)</u>			
Other	Free Free 10	39.02(g)1	Free Free 10
<u>905(f)</u>			
Other type:			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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905(f)1 (90509-1)

Plain, uncoated, undecorated

Free 10

Acrylonitrile-butadiene styrene (ABS) type

Epoxy type

Melamine formaldehyde type

Phenol formaldehyde type

Polyamide type

Polymethyl methacrylate type plates,

 sheets, film, sheeting and strip

Polypropylene type

Polystyrene type

Styrene-acrylonitrile type

Unsaturated polyester type

Urea formaldehyde type

39.02(g)2
39.01(g)2
39.01(g)3
39.01(g)4
39.01(g)5

39.02(g)4
39.02(g)5
39.02(g)6
39.02(g)9
39.01(g)6
39.01(g)7

17½
17½
17½
17½
17½

10
15
17½
17½
17½
17½

25
25
25
25
25

20
25
25
25
25
25

905(f)2 (90510-1)

Other

10 10 20

Acrylonitrile-butadiene-styrene (ABS) type

Epoxy type

Melamine formaldehyde type

Phenol formaldehyde type

Polyamide type

Polymethyl methacrylate type plates,

 sheets, film, sheeting and strip

Polypropylene type

Polystyrene type

39.02(g)2
39.01(g)2
39.01(g)3
39.01(g)4
39.01(g)5

39.02(g)4
39.02(g)5
39.02(g)6

17½
17½
17½
17½
17½

10
15
17½

25
25
25
25
25

20
25
25

<u>Existing Item</u>	<u>Existing Rates</u>		<u>Recommended Items</u>		<u>Recommended Rates</u>	
905(f)2 (90510-1) (Cont'd)						
Styrene-acrylonitrile type			39.02(g)9	17½	17½	25
Unsaturated polyester type			39.01(g)6	17½	17½	25
Urea formaldehyde type			39.01(g)7	17½	17½	25

Goods of these items not specifically listed above as being in a Rec. Item would generally be classified under the provision for "Other than the following types" in Rec. Items 39.01(g)1, Free, B.P., Free, M.F.N., 10 p.c., General, and 39.02(g)1, Free, B.P., Free, M.F.N., 10 p.c., General, or in 39.05(4), 10 p.c., B.P., 10 p.c., M.F.N., 20 p.c., General.

Imports under the existing tariff items are estimated to have been:

- 905(a): small in 1965, all under the M.F.N. Tariff
 905(b): more than \$3 million in 1965, about 70 per cent under the M.F.N. Tariff
 905(c)1: about \$1.5 million in 1964 and about \$2 million in 1965, all under the M.F.N. Tariff in 1965
 905(c)2: more than \$1.0 million dollars in 1964 and more than three quarters of a million dollars in 1965, all under the M.F.N. Tariff in 1965
 905(d)1: about \$2 million in 1964 and more than \$2.5 million in 1965, nearly all under the M.F.N. Tariff in 1965
 905(d)2: about \$3 million in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965
 905(e)1: more than \$2 million in 1965, all under the M.F.N. Tariff
 905(e)2: less than \$50,000 in 1965, all under the M.F.N. Tariff
 905(f)1: more than \$6.5 million in 1965, about 90 per cent under the M.F.N. Tariff
 905(f)2: more than \$2.5 million in 1964, and more than \$3 million in 1965, about 95 per cent under the M.F.N. Tariff in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<p><u>906</u></p> <p>Synthetic resin plates, sheets, film, sheeting or strips, less than 6 inches in width, lay-flat tubing less than 6 inches in circumference, other tubing, blocks, bars, rods, non-textile monofilament; synthetic resin profile shapes produced in uniform cross-section and imported in lengths: not further manufactured than moulded, cast, calendered, extruded or pressed, n.o.p.:-</p>			
<u>906(a) (90601-1)</u>			
Phenol-aldehyde type cast	Free Free 10		
Phenol formaldehyde type		39.01(g)4	17½ 17½ 25
<u>906(b) (90602-1)</u>			
Acrylic type	Free Free 10		
Polymethyl methacrylate type plates, sheets, film, sheeting and strip		39.02(g)4	10 10 20
<u>906(c) (90603-1)</u>			
Vinyl type, except vinylidene	15 15 25		
Polyvinyl chloride type (including polyvinyl chloroacetate) plates, sheets, film, sheeting, strip, lay-flat or other tubing, other than plain, uncoated, undecorated		39.02(g)7	17½ 20 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>906(c) (90603-1) (Cont'd)</u>			
Polyvinyl chloride type (including polyvinyl chloroacetate), other		39.02(g)8	17½ 17½ 25
<u>906(d) (90604-1)</u>			
Vinyl type, vinylidene	Free Free 10	39.02(g)1	Free Free 10
<u>906(e) (90605-1)</u>			
Other type	15 15 25		
Acrylonitrile-butadiene-styrene (ABS) type		39.02(g)2	17½ 17½ 25
Epoxy type		39.01(g)2	17½ 17½ 25
Melamine formaldehyde type		39.01(g)3	17½ 17½ 25
Phenol formaldehyde type		39.01(g)4	17½ 17½ 25
Polyamide type		39.01(g)5	17½ 17½ 25
Polyethylene type		39.02(g)3	15 15 25
Polypropylene type		39.02(g)5	15 15 25
Polystyrene type		39.02(g)6	17½ 17½ 25
Styrene-acrylonitrile type		39.02(g)9	17½ 17½ 25
Unsaturated polyester type		39.01(g)6	17½ 17½ 25
Urea formaldehyde type		39.01(g)7	17½ 17½ 25

Goods of these items not specifically listed above as being in a Rec. Item would generally be classified under the provision for "Other than the following types" in Rec. Items 39.01(g)1, Free, B.P., Free, M.F.N., 10 p.c., General, and 39.02(g)1, Free, B.P., Free, M.F.N., 10 p.c., General, or in 39.05(4), 10 p.c., B.P., 10 p.c., M.F.N., 20 p.c., General.

Imports under the existing tariff items are estimated to have been:

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>906 (Cont'd)</u>			
906(a): more than \$50,000 in 1965, all under the M.F.N. Tariff			
906(b): more than \$100,000 in 1965, all under the M.F.N. Tariff			
906(c): more than \$1.0 million dollars in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965			
906(d): small in 1965, all under the M.F.N. Tariff			
906(e): nearly \$2 million in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965.			
<u>907 (90700-1)</u>			
Foamed and expanded synthetic resins, in logs, sheets, blocks or boards, or in flakes, granules or powder	15 20 25	39.01(f) 39.02(f)	15 15 25 15 15 25
311			
<u>The foamed and expanded synthetic resins of tariff item 907, together with foamed and expanded, scrap or waste, or tariff item *681 would be classified in Rec. Items 39.01(f) and 39.02(f).</u>			
Imports under the existing tariff item are estimated to have been:			
907: about \$1.0 million dollars in 1964 and 1965, all under the M.F.N. Tariff in 1965.			
<u>908 (90800-1)</u>			
Manufactures of synthetic resins including floor and wall tile containing synthetic resin, n.o.p.	15 20 30	39.07	20 20 30

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
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208 (90800-1) (Cont'd)

Magnetic instrumentation tape, recorded,
n.o.p.
Magnetic instrumentation tape, unrecorded,
n.o.p.
Sound recording tape, recorded

R-30(2)	658b(2)	15	20	25
R-30(1)	658b(1)	5	10	25
R-30(2)	658b(2)	15	20	25

Rec. Items 39.01(g) and 39.02(g) would also provide for certain manufactured goods, including some floor and wall tile, now dutiable under item 908.

Imports under the existing tariff item are estimated to have been:

908: more than \$30 million in 1964 and more than \$40 million in 1965, about 95 per cent under the M.F.N. Tariff in 1965.

909(a)

Esters or ethers, or combinations thereof,
of cellulose (but not including water
soluble cellulose esters or ethers),
without admixture:-

909(a)1 (90901-1)

Cellulose nitrate containing not more than
12.2 per cent by weight of nitrogen

Free	Free	10	39.03(a)1	Free	Free	10
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<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>909(a)2 (90902-1)</u>			
Cellulose acetate	Free Free 10	39.03(a)1	Free Free 10
<u>909(a)3 (90903-1)</u>			
Cellulose acetate butyrate	Free Free 10	39.03(a)1	Free Free 10
<u>909(a)4 (90904-1)</u>			
Cellulose propionate	Free Free 10	39.03(a)1	Free Free 10
<u>909(a)5 (90905-1)</u>			
Ethyl cellulose	Free Free 10	39.03(a)1	Free Free 10
<u>909(a)6 (90906-1)</u>			
Methyl cellulose, water insoluble	Free Free 10	39.03(a)1	Free Free 10
<u>909(a)7 (90907-1)</u>			
Other	Free Free 10	39.03(a)1	Free Free 10

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>909(a) (Cont'd)</u>			
Imports under the existing tariff items are estimated to have been:			
909(a)1:	more than \$150,000 in 1965, all under the M.F.N. Tariff		
909(a)2:	small in 1965, all under the M.F.N. Tariff		
909(a)3:	about \$100,000 in 1965, all under the M.F.N. Tariff		
909(a)4:	negligible in 1965		
909(a)5:	about \$400,000 in 1965, all under the M.F.N. Tariff		
909(a)6:	not known		
909(a)7:	more than \$120,000 in 1965, all under the M.F.N. Tariff.		
<u>909(b) (90910-1)</u>			
Cellulose nitrate containing not more than 12.2 per cent by weight of nitrogen, when wet with not more than 35 per cent by weight of alcohol			
		Free	Free
		10	10
		39.03(a)1	7½
		39.03(b)	20

Part of the goods in item 909(b) would be classified in Rec. Item 39.03(a)1 which provides for cellulose nitrate with not more than 35 per cent by weight of a dampening agent other than an organic solvent of Rec. Item 39.03(b).

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>909(b) (90910-1) (Cont'd)</u>			
Imports under the existing tariff item are estimated to have been:			
909(b): more than \$1.5 million in 1965, about 95 per cent under the M.F.N. Tariff.			
<u>909(c)</u>			
Esters or ethers, or combinations thereof, of cellulose, in organic solvents, where the solvent is not more than 60 per cent by weight, without other admixture:-			
<u>909(c)1 (90921-1)</u>			
Cellulose nitrate containing not more than 12.2 per cent by weight of nitrogen, except as provided for under (b) above	10 10 20	39.03(b)	7½ 7½ 20
<u>909(c)2 (90922-1)</u>			
Cellulose acetate	10 10 20	39.03(b)	7½ 7½ 20
<u>909(c)3 (90923-1)</u>			
Cellulose acetate butyrate	10 10 20	39.03(b)	7½ 7½ 20
<u>909(c)4 (90924-1)</u>			
Cellulose propionate	10 10 20	39.03(b)	7½ 7½ 20

<u>Existing Item</u>	<u>Existing Rates</u>			<u>Recommended Items</u>	<u>Recommended Rates</u>		
<u>909(c)5 (90925-1)</u>							
Ethyl cellulose	10	10	20	39.03(b)	7½	7½	20
<u>909(c)6 (90926-1)</u>							
Methyl cellulose	10	10	20	39.03(b)	7½	7½	20
<u>909(c)7 (90927-1)</u>							
Other	10	10	20	39.03(b)	7½	7½	20
<u>The cellulosic materials which contain solvent in excess of 50 per cent of the weight of the solution, except for collodions, would be classified in Rec. Item 32.09.</u>							
Imports under the existing items 909(c)1 - 909(c)7 are not known.							
<u>910 (91000-1)</u>							
Esters or ethers, or combinations thereof, of cellulose compounded with other materials, in any form, including scrap or waste, for moulding, casting, extruding, calendering, pressing, (moulding compositions or materials for processing into moulding compositions)							
	Free	Free	10	39.03(c)	Free	Free	10

<u>Existing</u>	<u>Item</u>

970 (97000-1) (Cont'd)

Imports under the existing tariff item are estimated to have been:

910: about \$1.8 million in 1965, nearly all under the M.F.N. Tariff.

911 (91100-1)

Compositions of esters or ethers of cellulose (except water soluble esters or ethers of cellulose) with other materials, n.o.p.

Pigment dispersions

Resin mastics and cements, sealing compounds, sealers and sealants, containing synthetic resins, other than sealing wax

Solutions (other than colloids) of esters or ethers of cellulose in volatile organic solvents, when the weight of the solvent exceeds 60 per cent of the weight of the solution

<u>Recommended Items</u>	<u>Recommended Rates</u>
39.03(d)	7½ 20
32.09(1)	10 15 25
32.12(1)	10 15 25
32.09(1)	10 15 25

Imports under the existing tariff item are estimated to have been:

911: less than \$50,000 in 1964 and 1965, all under the M.F.N. Tariff in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
912 (91200-1)			
Cellulose plastics plates, sheets, film, sheeting or strips, not less than 6 inches in width, n.o.p.; cellulose plastics lay-flat tubing, not less than 6 inches in circumference, n.o.p.	Free Free 10		
Cellulose acetate plates, sheets, film, sheeting and strip, other than base film for use in the manufacture of photographic film		39.03(g)2	10 10 20
Cellulose acetate butyrate plates, sheets, film, sheeting and strip, other than base film for use in the manufacture of photographic film		39.03(g)3	10 10 20
Other		39.03(g)1	Free Free 10

318

Imports under the existing tariff item are estimated to have been:

912: about \$5 million in 1965, about 80 per cent under the M.F.N. Tariff.

913

Cellulose plastics plates, sheets, film, sheeting or strips, less than 6 inches in width, lay-flat tubing less than 6 inches in circumference, other tubing, blocks, bars, rods, non-textile monofilament;

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
913 (Cont'd)			
cellulose plastics profile shapes produced in uniform cross-section and imported in lengths: not further manufactured than moulded, cast, calendered, extruded or pressed, n.o.p.:-			
913(a) (91301-1)			
Cellulose nitrate	Free Free 10	39.03(g)1	Free Free 10
913(b) (91302-1)			
Other	15 15 25		
Cellulose acetate plates, sheets, film, sheeting and strip, other than base film for use in the manufacture of photographic film		39.03(g)2	10 10 20
Cellulose acetate butyrate plates, sheets, film, sheeting and strip, other than base film for use in the manufacture of photographic film		39.03(g)3	10 10 20
Other		39.03(g)1	Free Free 10

Imports under the existing tariff items are estimated to have been:

913(a): less than \$50,000 in 1965, all under the M.F.N. Tariff

913(b): about \$150,000 in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>			<u>Recommended Items</u>	<u>Recommended Rates</u>		
<u>914 (91400-1)</u>							
Foamed and expanded cellulose plastics in sheets, blocks or boards, granules or powder	15	20	25	39.03(f)	15	15	25
<u>The foamed and expanded cellulose plastics of tariff item 914 together with foamed and expanded, scrap or waste, of tariff item *681 would be classified in Rec. Item 39.03(f).</u>							
Imports under the existing tariff item are estimated to have been:							
914: about \$150,000 in 1964 and 1965, all under the M.F.N. Tariff in 1965.							
<u>915</u>							
Manufactures of cellulose plastics, n.o.p.:-							
<u>915(a) (91501-1)</u>							
Cellulose nitrate	10	20	30	39.07	20	20	30
<u>915(b) (91502-1)</u>							
Cellulose nitrate cinematograph and moving picture films, negatives, n.o.p.	10	10	20	39.07	20	20	30
<u>915(c) (91503-1)</u>							
Other	15	20	30	39.07	20	20	30

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
915(c) (91503-1) (Cont'd)			
Magnetic instrumentation tape, recorded, n.o.p.		R-30(2) 658b(2)	15 20 25
Magnetic instrumentation tape, unrecorded, n.o.p.		R-30(1) 658b(1)	5 10 25
Sound recording tape, recorded		R-30(2) 658b(2)	15 20 25

Imports under the existing tariff items are estimated to have been:

- 915(a): less than \$100,000 in 1964 and 1965, nearly 90 per cent under the M.F.N. Tariff in 1965
- 915(b): negligible in 1964 and 1965
- 915(c): about \$2 million in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965.

916 (91600-1)

Laminated moulded plastics products, n.o.p.,
having synthetic resins or cellulose
plastics as the chief bonding (impregnating)
agents

15	15	25	39.01(g)	various
			39.02(g)	"
			39.03(g)	"

The goods entered under existing item 916 would be classified, according to type, under Rec. Items 39.01(g), 39.02(g) or 39.03(g), except 39.03(g)47 or in 39.07.

Imports under the existing tariff item are estimated to have been:

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>916 (91600-1) (Cont'd)</u>			
916: nearly one and a half million dollars in 1964 and more than \$2 million in 1965, nearly all under the M.F.N. Tariff in 1965.			
<u>917</u>			
Reinforced or supported synthetic resin or cellulose plastics plates, sheets, sheeting, strips, tubing, blocks, bars, rods, in which is incorporated a layer of paper, fibreboard, or textile fabric, or a core of fibres whether matted or otherwise arranged, n.o.p.:			
<u>917(a) (91701-1)</u>			
Interlined sheet stock, composed of sheets of cellulose plastics cemented to cotton fabric	10 15 25		
Cellulose acetate plates, sheets, film, sheeting and strip, other than base film for use in the manufacture of photographic film		39.03(g)2	10 10 20
Cellulose acetate butyrate plates, sheets, film, sheeting and strip, other than base film for use in the manufacture of photographic film		39.03(g)3	10 10 20
Other		39.03(g)1	Free Free 10
<u>917(b) (91702-1)</u>			
Other	15 15 25	39.01(g)	various

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>917(b) (91702-1) (Cont'd)</u>			
		39.02(g)	various
		39.03(g)	"
The goods entered under existing item 917(b) would be classified, according to type, under Rec. Items 39.01(g), 39.02(g) or 39.03(g), <u>except 39.03(g)47</u> .			
Imports under the existing tariff items are estimated to have been:			
917(a): negligible in 1964 and 1965			
917(b): about \$2 million in 1964 and more than \$3 million in 1965, nearly all under the M.F.N. Tariff in 1965.			
<u>918(a) (91805-1)</u>			
Regenerated cellulose, in sheets or strips	15 20 30	39.03(g)4	10 15 25
<u>918(b) (91810-1)</u>			
Regenerated cellulose sponges	15 20 30		
Foamed and expanded, in logs, sheets, blocks, boards, flakes, granules, powder, scrap or waste		39.03(f)	15 15 25
Other		39.07	20 20 30
<u>918(c) (91815-1)</u>			
Manufactures of regenerated cellulose, n.o.p.	15 20 30		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
918(c) (91815-1) (Cont'd)			
Plates, film, sheeting; lay-flat or other tubing, blocks, bars, rods, sticks, non-textile monofilament and other profile shapes imported in lengths, all produced in uniform cross-section			
Other		39.03(g)4	10 15 25
		39.07	20 20 30
<u>Imports under the existing tariff items are estimated, except for item 918(a), to have been:</u>			
918(a): (reported) about \$938,000 in 1964 and about \$1,293,000 in 1965, about 95 per cent under the M.F.N. Tariff in each of these years			
918(b): less than half a million dollars in 1964 and 1965, nearly all under the M.F.N. Tariff in 1965			
918(c): more than one million dollars in 1964 and in 1965, nearly all under the M.F.N. Tariff in 1965.			
919 (91900-1)			
Protein plastics sheets, strips, tubing, blocks, bars, rods; other protein plastics profile shapes produced in uniform cross-section and imported in lengths: not further manufactured than moulded, extruded or pressed	Free Free 10	39.04	Free Free 10

Imports under item 919 are estimated to have been negligible in 1965.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
920 (92000-1)			
Manufactures of protein plastics, n.o.p.	15 20 30	39.07	20 20 30

Imports under the existing tariff item are estimated to have been:

920: less than half a million dollars in 1964 and \$1.5 million in 1965, nearly all under the M.F.N. Tariff in 1965.

Existing Item
921 (92100-1)

Materials of a kind not produced in Canada for use only in the manufacture of goods enumerated in tariff items 901, 902, 903, 904, 905, 906, 907, 909, 910, 911, 912, 913, 914, 916, 917, 918(a), 918(b), 919 and 925, but not including goods themselves enumerated in tariff items 901 to 920, inclusive

Recommended Item

Except for (+) items, recommended rates are:

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
Free	15 p.c.	25 p.c.

For (+) items, see rates listed in Appendix I.

<u>B.P.</u>	<u>M.F.N.</u>	<u>General</u>
Free	Free	10 p.c.

Acenaphthene (ethylene-naphthalene, naphthylene-ethylene)	29.01(1)
Acetanilide antifebrin; (N-phenylacetamide)	29.25(1)
Acetol (acetonyl alcohol; acetylcarbinol; hydroxyacetone; pyruvic alcohol)	29.13(1)
Acetonyl acetone (1,2-diacetylene; 2,5-diketohexane; hexanedione-2,5)	29.13(1)
Acetoxime (acetone oxime; 2-propanone oxime)	29.29
Acetylacetone (diacetylmethane; pentanedione-2,4)	29.13(1)
Acrylic acid (acrolein acid ethylenecarboxylic acid; propenoic acid; vinylformic acid)	+29.14(5)
Acrylamide	29.25(1)
Allyl alcohol (AA; 2-propen-1-ol; propenyl alcohol)	29.04(1)
Aluminum chloride, other than anhydrous	+28.30(2)
Aminoethyl-3-trimethoxysilylpropylimine	29.34(1)
3-Aminopropyltriethoxysilane	29.34(1)
Aminotrichlorosilane	29.34(1)
Aminotriethoxysilane	29.34(1)
para-tertiary-Amyl phenol	29.06(1)
Amyltriethoxysilane	29.34(1)
Amyltriethoxysilane	29.34(1)
Antimony oxides, natural	+R-37(2)
Antimony pentoxide (antimonic acid; antimonic anhydride; stibic anhydride)	+28.28(2)
Antimony tetroxide	+28.28(2)
Antimony trioxide (antimony bloom; antimony white; flowers of antimony)	+28.28(2)
Artificial radio-active isotopes and compounds thereof used to trigger off the polymerization or grafting of several organic compounds	+28.50
Benzaldehyde (benzene carbonal; benzoic aldehyde; benzoyl hydride; synthetic oil of bitter almond)	29.11(1)
Benzofuran (see coumarone)	
Benzonitrile (phenyl cyanide)	29.27(1)
Benzyl alcohol (alpha-hydroxytoluene; phenylcarbinol; phenylmethanol)	29.05(1)
Benzyl butyl phthalate (BBP; butyl benzyl phthalate)	29.15(1)
Black polyethylene masterbatch	+32.07(3)
sec-Butyl acetate (2-butanol acetate)	29.14(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>921 (92100-1) (Cont'd)</u>	
tert-Butyl acetate	29.14(1)
Butyl acrylate	29.14(1)
p-tert-Butyl benzoic acid	29.14(1)
Butyl cyclohexyl phthalate	29.15(1)
Butyl decyl phthalate	29.15(1)
Butyl glycidyl ether	29.09(1)
Butyl lactate	29.16(1)
Butylisodecyl phthalate	+29.15(4)
Butyliso-octyl phthalate	+29.15(5)
Butyl methacrylate	29.14(1)
para-tertiary-Butyl phenol	29.06(1)
Cadmium hydroxide (cadmium hydrate)	28.28(1)
Cadmium oxide (anhydrous cadmium oxide)	28.28(1)
Calcium glycerophosphate (calcium glycerinophosphate)	29.19(1)
Calcium thiocyanate (calcium rhodanate; calcium sulphocyanate)	28.44
Camphor (2-camphanone; camphor, natural; camphor synthetic; gum camphor)	+29.13(3)
Capric acid (decanoic acid; decoic acid; decylic acid)	29.14(1)
Catalyst preparations	+38.19(1)
Chlorbutol	29.04(1)
Chlorofluoromethanes	+29.02(4)
Coumarone (benzofuran; cumarone)	29.35(1)
m-Cresol (meta-cresylic acid; 3-methylphenol; meta-oxy-toluene)	29.06(1)
p-Cresol (para-cresylic acid; 4-methylphenol; para-oxy-toluene)	29.06(1)
Cumene (cumol; isopropylbenzene; isopropylbenzol)	29.01(1)
b-Cyanoethylmethyldiethoxysilane	29.34(1)
b-Cyanoethyltriethoxysilane	29.34(1)
Cyclohexane (hexahydrobenzene; hexamethylene; hexanaphthene)	29.01(1)
Cyclohexanol-cyclohexanone mixtures	+38.19(1)
Cyclohexanone (ketoexamethylene; pimelic ketone)	29.13(1)
Cyclohexanone oxime	29.29
Cyclopropane for other than anaesthetic purposes (trimethylene)	29.01(1)
Cymene (cymol; isopropyltoluene; isopropyltoluol; methylpropylbenzene) ortho-, meta-, and para- cymene	29.01(1)
Decamethylcyclopentasiloxane	29.34(1)
Diacetone alcohol (diacetone; 4-hydroxy-4-methyl-pentanone; 4-hydroxy-2-keto-4-methylpentone)	+29.13(4)
1,2-Diaminoethane (see ethylenediamine)	
Diamyl phthalate	29.15(1)
Dibenzyl sebacate	29.15(1)
Di(2,2-butoxyethoxy)ethyl adipate	29.15(1)
Di(2-butoxyethyl)phthalate	29.15(1)

<u>Exsiting Item</u>	<u>Recommended Item</u>
<u>921 (92100-1) (Cont'd)</u>	
Dibutyltin dilaurate	29.34(1)
ortho-Dichlorobenzene (1,2-dichlorobenzene)	+29.02(5)
Dichlorofluoroethane	+29.02(3)
Dichloromonofluoromethane	+29.02(4)
Dichlorophthalic acid	29.15(1)
Dichlorophthalic anhydride	29.15(1)
Dicyandiamide (cyanoguanidine)	+29.27(5)
Di-n-decyl adipate	29.15(1)
Di-n-decyl phthalate	+29.15(12)
Di(2(2 ethoxy)ethyl) Phthalate	29.15(1)
Diethylamine	29.22(1)
Diethylaniline	29.22(1)
Di-2-ethylbutyl phthalate (dihexyl phthalate)	+29.15(13)
Diethylene glycol phthalate (diglycol phthalate)	29.15(1)
Di(2-ethylhexyl)hexahydrophthalate (dioctyl hexahydrophthalate)	29.15(1)
Di(2-ethylhexyl)isodecyl phthalate	29.15(1)
Di(2-ethylhexyl)maleate	29.15(1)
Diethyl carbonate (ethyl carbonate)	29.20
Diethyl oxalate (ethyl oxalate)	29.15(1)
Diethyl phthalate (ethyl phthalate)	29.15(1)
Di-isobutyl adipate	29.15(1)
Di-isobutyl azelate	29.15(1)
Di-isobutyl carbonyl phthalate	29.15(1)
Di-isoheptyl phthalate	29.15(1)
Di-iso-octyl azelate	+29.15(21)
Dimethylacetamide (DMAC)	29.25(1)
Dimethyldichlorosilane	29.34(1)
Dimethyldiethoxysilane	29.34(1)
Dimethyl oxobenzotriazinomethyl dithiophosphate	29.35(1)
Dimethyl phthalate	29.15(1)
Dimethyl terephthalate (DMT)	+29.15(25)
Dinonyl adipate (DNA)	29.15(1)
Dinonyl phthalate (DNP)	29.15(1)
Dipentene (cajaputene; cinene, in active limonene)	+29.01(9)
Diphenyldichlorosilane	29.34(1)
Diphenyldiethoxysilane	29.34(1)
Diphenyl isodecyl phosphite	29.21(1)
Diphenylmethane di-isocyanate (bis-isocyanatophenyl- methane; bis(p-isocyanatophenyl) methane)	29.30(1)
Diphenylsilanediol	29.34(1)
Dipropylene glycol dibenzoate	29.14(1)
Divinylbenzene (vinylstyrene)	29.01(1)
Dodecamethylcyclotetrasiloxane	29.34(1)
Dodecyl alcohol (dodecanol; lauryl alcohol)	29.04(1)
Dry inorganic colours and pigments	+32.07(3A)
Epichlorohydrin (EPI; chloropropylene oxide)	+29.09(2)
Epoxy alcohols	29.09(1)
3,4-Epoxy-cyclohexylethyltrimethoxysilane	29.34(1)
Epoxyethers	29.09(1)
Epoxyphenols	29.09(1)
Epoxy resin curing agents	+38.19(1)
Essential oils, natural or synthetic, including Bromostyrene and beta-Bromostyrene	+29.02(7)
Esters of resin acids	+38.08
Ethylacetanilide (ethyl phenylacetamide)	29.25(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>921 (92100-1) (Cont'd)</u>	
Ethyl acetoacetate (acetoacetic ester; diacetic ester)	29.16(1)
Ethyl acrylate	+29.14(32)
Ethylbenzene (ethylbenzol, phenylethane)	29.01(1)
Ethylene (bicarburetted hydrogen; elayl; ethene; olefiant gas)	+29.01(11)
Ethylenediamine (1,2-diaminoethane)	29.22(1)
Ethylene dibromide (EDB; 1,2-dibromoethane; ethylene bromide)	+29.02(9)
Ethylene thiourea (2-imidoazolidinethione; 2-mercaptoimidazoline)	29.35(1)
Ethyl formate	29.14(1)
2-Ethylhexyl n-decyl phthalate	+29.15(27)
Ethyl lactate	29.16(1)
Ethyl methacrylate	29.14(1)
Ethyl stearate	29.14(1)
Ethyltrichlorosilane	29.34(1)
Formic acid (hydrogen carboxylic acid)	+29.14(33)
Fumaric acid (alomaleic acid; boletic acid; lichenic acid)	+29.15(29)
Furfural (ant oil, artificial; furfuraldehyde; pyromucic aldehyde)	29.35(1)
Furfuryl alcohol (furyl carbinol)	29.35(1)
Glycidoxypopyltrimethoxysilane	29.34(1)
Heptanols	29.04(1)
Hexamethylcyclotrisiloxane	29.34(1)
Hexamethyldisiloxane	29.34(1)
Hexanol (hexyl alcohol)	29.04(1)
n-Hexoic acid (caproic acid; hexanoic acid; hexylic acid)	29.14(1)
Hexyl methacrylate	29.14(1)
Hydantoin (glycolylurea)	29.25(1)
Hydroabietal alcohol (dihydroabietal alcohol)	+38.08
Isobutyl isodecyl phthalate	29.15(1)
Isobutyl iso-octyl phthalate	29.15(1)
Isophthalic acid (metaphthalic acid)	29.15(1)
Isoprene	29.01(1)
Lauryl methacrylate	29.14(1)
Lead stearate, dibasic	+29.14(44)
Magnesium glycerophosphate (magnesium glycerinophosphate)	29.19(1)
Magnesium phosphate dibasic (dimagnesium orthophosphate; dimagnesium phosphate; magnesium hydrogen orthophosphate; magnesium hydrogen phosphate)	28.40(1)
Magnesium phosphate monobasic (magnesium biphosphate; magnesium phosphate acid; magnesium tetrahydrogen phosphate)	28.40(1)

<u>Existing Item</u>	<u>Recommended Item</u>
921 (92100-1) (Cont'd)	
Magnesium phosphate tribasic (magnesium phosphate neutral; trimagnesium phosphate)	28.40(1)
Magnesium silicates	28.45(1)
Maleic acid (maleinic acid)	+29.15(31)
Mesityl oxide (isopropylideneacetone; methylisobutanylketone; 4-methyl-3-penten-2-one)	+29.13(11)
Methacrylic acid (alpha-methacrylic acid)	+29.14(48)
Methyl acrylate	+29.14(49)
Methyldichlorosilane	29.34(1)
Methyl glucoside	29.43(1)
Methyl methacrylate	29.14(1)
n-Methyl morpholine	29.35(1)
Methylphenyldichlorosilane	29.34(1)
Methyltrichlorosilane	29.34(1)
Methyltriethoxysilane	29.34(1)
Methyltri(2-methoxyethoxy)silane	29.34(1)
Methylvinylchlorosilane	29.34(1)
Monochlorotrifluoromethane	+29.02(4)
Naphthalene, crude	+R-40A
1,4-Naphthaquinone	29.13(1)
Nitroethane	29.03(1)
Nitromethane	29.03(1)
Nitropropane	29.03(1)
Nitroxyline (dimethylnitrobenzene)	29.03(1)
n-Nonyl alcohol (alcohol C-9; nonanol; octyl carbinol; pelargonic alcohol)	29.04(1)
Octamethylcyclotetrasiloxane	29.34(1)
Octamethyltrisiloxane	29.34(1)
Octaphenylcyclotetrasiloxane	29.34(1)
n-Octyl n-decyl adipate	+29.15(33)
n-Octyl n-decyl phthalate	+29.15(34)
Octyl diphenyl phosphate	29.19(1)
Octylene glycol sebacate	29.15(1)
Octyl phenol (di-isobutyl phenol)	29.06(1)
Oleyl alcohol (octadecenol)	+15.10(3)
	29.04(1)
Paraformaldehyde (paraform; polyformaldehyde; polyoxymethylene)	29.11(1)
Pearl essence for the manufacture of plastic products	+32.09(2)
Phenylacetamide (see acetanilide)	
para-Phenylphenol (para-hydroxydiphenyl; para-xenol)	29.06(1)
Phenyltrichlorosilane	29.34(1)
Phloroglucinol (phloroglucine; 1,3,5-trihydroxybenzene)	29.06(1)
Phorones, other than isphorone	29.13(1)
Phthalic acid (naphthalic acid, orthobenzene dicarboxylic acid; orthophthalic acid)	+29.15(36)
Pinenes	+29.01(16)
Plasticizer preparations	+38.19(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>921 (92100-1) (Cont'd)</u>	
Polyether type condensation, polycondensation and polyaddition products	+39.01(a)9
Potassium persulphate (anthion; potassium peroxydisulphate)	28.38(1)
Propionic acid (methylacetic acid; propanoic acid)	29.14(1)
Propylene (propene)	+29.01(18)
Resorcinol (meta-dihydroxybenzene; 3-hydroxyphenol; resorcin)	29.06(1)
Salts of resin acids	+38.08
Sebacic acid (decanedioic acid; octanedicarboxylic acid; sebacylic acid)	29.15(1)
Silicon dioxide (silica)	28.13(1)
Sodium cyclamate (cyclamate sodium; sodium cyclohexylsulphamate)	29.30(1)
Sodium methylsilanolate	29.34(1)
Sorbic acid (2,4-hexadienoic acid)	29.14(1)
Sorbitol (d-sorbite; d-sorbitol; sorbol; hexahydric alcohol)	+29.04(15)
Stannous chloride (tin crystals; tin dichloride; tin protochloride; tin salt)	+28.30(6)
Stearyl alcohol	+15.10(3)
Stearyl methacrylate	29.14(1)
Succinic anhydride (butanedioic anhydride; 2,5-diketotetra hydrofuran; succinyl oxide)	29.15(1)
Sucrose mono-acetate	29.43(1)
Sucrose octa-acetate	29.43(1)
Sucrose octa-benzoate	29.43(1)
Sulphonitric acid	+28.09
Sulphuryl chloride (chlorosulphuric acid; sulphonyl chloride; sulphuric chloride; sulphuric oxychloride)	28.14(1)
Surface-active agents, of a kind not made in Canada, when used in the manufacture of plastic products	+34.02
Terephthalic acid (benzene-para-dicarboxylic acid; paraphthalic acid)	29.15(1)
Tetrachlorophthalic anhydride	29.15(1)
Tetrahydrofuran	29.35(1)
Tetramethyltetraphenylcyclotetrasiloxane	29.34(1)
Tin-based stabilizers for synthetic resins	+38.19(12)
Toluene-di-isocyanates (toluene-2,4-isocyanate; 2,4-tolylene di-isocyanate; meta tolylene di-isocyanate; toluene 2,6-di-isocyanate and mixtures of these isomers) of a kind not made in Canada	+29.30(2)
Toluene sulphonic acid	+29.03(11)
Tributoxyethyl phosphate (tributyl oxyethyl phosphate)	29.19(1)
Tributylcitrate	29.16(1)
Trichloronitromethane (chloropicrin, chlorpicrin, nitrochloromethane, nitrochloroform)	29.03(1)
Tricresyl phosphate (TCP; tritolyl phosphate)	29.19(1)
Tridecanol (tridecyl alcohol)	29.04(1)
Tridecyl phosphite	29.21(1)
Triethyl citrate	29.16(1)
Triethylene diamine (1,4-diaza-2,2,2-bicyclo octane)	29.35(1)
Triethyl phosphate (TEP)	29.19(1)
Triethylsilanol	29.34(1)

<u>Existing Item</u>	<u>Recommended Item</u>
<u>921 (92100-1) (Cont'd)</u>	
Trimethylamine (TMA)	29.22(1)
Trimethylchlorosilane	29.34(1)
Trimethylolethane (methyltrimethylol methane; pentaglycerine)	29.04(1)
Tri-o-cresyl phosphate (see tricresyl phosphate)	
Triphenyl phosphate (TPP)	29.19(1)
Triphenylsilanol	29.34(1)
Tritolyl phosphate (see tricresyl phosphate)	
Trixylenyl phosphate (tridimethylphenyl phosphate; trixylol phosphate)	29.19(1)
Trixylyl phosphate (see trixylenyl phosphate)	
Valeric acid (n-pentanoic acid; valerianic acid)	29.14(1)
Vinylidene chloride	29.02(1)
Vinylpyridine	29.35(1)
1-Vinyl-2-pyrrolidone	29.35(1)
Vinyl resin stabilizer preparations other than tin based, of a kind not made in Canada	+38.19(1)
Vinyl toluene	29.01(1)
Vinyltrichlorosilane	29.34(1)
Vinyltriethoxysilane	29.34(1)
Vinyltri(2-methoxyethoxy)silane	29.34(1)
Vinyltrimethoxysilane	29.34(1)
Xanthen (diphenylenemethane oxide, tricyclic)	29.35(1)
Xylene (dimethylbenzene)	+29.01(22)

Other products now classified under tariff item 921 would be in the appropriate Recommended Items or elsewhere in the Customs Tariff

Imports under this item are estimated to have been more than \$25 million in 1965, practically all from M.F.N. countries.

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>922 (92200-1)</u>			
Phenol for use only in the manufacture of synthetic resin glues	Free Free 10		
Phenol (benzophenol; carbolic acid; hydroxy-benzene; phenylic acid)		29.06(11)	10 15 25
<u>Imports under this item are estimated to have been in excess of \$100,000 in 1965, all from M.F.N. countries.</u>			
<u>923 (92300-1)</u>			
Phthalic anhydride, adipic, abietic, maleic and succinic acids, hexamethylene diammonium adipate, hexamethylene diammonium sebacate, hexamethylene diamine, caprolactam, and ethylene glycol, when imported by manufacturers of synthetic resins, for use exclusively in the manufacture of synthetic resins, in their own factories	Free Free 10		
Abietic acid (abietinic acid; sylvic acid)		38.08	Free Free Free
Adipic acid (1,4-butanedicarboxylic acid; hexanedioic acid)		29.15(2)	10 15 25
Caprolactam (epsilon hexolactam)		29.35(4)	5 5 15
Ethylene glycol (ethanediol; ethylene alcohol; glycol)		29.04(5)	10 10 25
Hexamethylene diamine (1,6-Diaminohexane)		29.22(10)	10 15 25

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>223 (92300-1) (Cont'd)</u>			
Hexamethylene diammonium adipate		29.22(11)	10 15 25
Hexamethylene diammonium sebacate		29.22(1)	Free 15 25
Maleic acid (maleinic acid)		29.15(31)	10 15 25
Phthalic anhydride (acid phthalic anhydride)		29.15(37)	10 15 25
Succinic acid (butanedioic acid; ethylene-dicarboxylic acid)		29.15(1)	Free 15 25
<u>Imports under this item are estimated to have been about \$1.5 million in 1965, all from M.F.N. countries.</u>			
<u>924a (92405-1)</u>			
Bars, rods and profile shapes of uniform cross-section of cellulose plastic, except cellulose nitrate, when imported in lengths for use in the manufacture of hand tools	10 10 25	39.03(g)1	Free Free 10
<u>924b (92410-1)</u>			
Cast phenolic resin handles, in the rough, for use in the manufacture of cutlery	7½ 7½ 30	39.07	20 20 30
<u>924c (92415-1)</u>			
Cellulose plastics plates or sheets, less than 6 inches in width, for use in the			

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
<u>924c (92415-1) (Cont'd)</u>			
manufacture of spectacle and eye- glass frames	Free Free 25		
Cellulose acetate plates, sheets, film, sheeting and strip, other than base film for use in the manufacture of photographic film		39.03(g)2	10 10 20
Cellulose acetate butyrate plates, sheets, film, sheeting and strip, other than base film for use in the manufacture of photographic film		39.03(g)3	10 10 20
Other		39.03(g)1	Free Free 10
335			
<u>Imports under the existing tariff items are estimated to have been:</u>			
924a: more than \$50,000 in 1965, all under the M.F.N. Tariff			
924b: less than \$100,000 in 1964 and nearly \$150,000 in 1965, all under the M.F.N. Tariff in 1965			
924c: not known.			
<u>925 (92500-1)</u>			
Phenol-aldehyde resins without admixture or in the form of aqueous emulsions, aqueous dispersions or aqueous solutions, without admixture, for use in the manu- facture of plywood	Free Free 17½		

<u>Existing Item</u>	<u>Existing Rates</u>	<u>Recommended Items</u>	<u>Recommended Rates</u>
925 (92500-1) (Cont'd)			
Phenol formaldehyde type		39.01(a)5	10 10 20
Other		39.01(a)1	Free Free 10

Imports under item 925 are estimated to have been negligible in 1965.

<u>Existing Drawback Item</u>	<u>Portion of Duty Payable as Drawback</u>	<u>Recommended Drawback Item</u>	<u>Recommended Drawback</u>
<u>1016 (97016-1)</u>			
Stearine and caseine, when used in the manufacture of leather	99 p.c.		
<u>The Board has recommended deletion of this drawback item.</u>			
<u>1026 (97026-1)</u>			
Materials. When used in the manufacture of containers for articles entitled to entry under tariff 219a	99 p.c.	R-42 1026	99 p.c.
<u>1046 (97046-1)</u>			
Materials. When used in the manufacture of articles entitled to entry under tariff item 663b when such articles are sold to manu- facturers to be used as specified in said item	99 p.c.	R-43 1046	99 p.c.

Existing Drawback Item	Portion of Duty Payable as Drawback	Recommended Drawback Item	Recommended Drawback
<u>1065 (97065-1)</u>			
Bituminous coal, when used in melting, evaporating and preparing salt produced in Canada. No drawback under this item shall be payable on coal used in producing salt or brine when such salt or brine is further manufactured than salt enumerated in tariff items 40, 41, 42, and 42a			
	99 p.c.		

The Board has recommended deletion of this drawback item.

APPENDIX

RATES OF DUTY
OF
RECOMMENDED ITEMS

APPENDIX

Rates of Duty of Recommended Items

Tariff Item	Rates of Duty		Tariff Item	Rates of Duty	
	B.P.	M.F.N.		G.T.	G.T.
R-1 *90f	10	10	25	10¢	40¢
R-2 156(6)	\$5.00	\$10.00	\$10.00	per gallon of the strength of proof and in addition thereto, under all tariffs, a rate of duty equal to the rate of duty applicable under the Excise Act to such alcohol if manufactured in Canada and sold or used in Canada	
R-3 156(7)(a)	\$5.00	\$10.00	\$10.00	per gallon of the strength of proof and in addition thereto, under all tariffs, a rate of duty equal to the rate of duty applicable under the Excise Act to such alcohol if manufactured in Canada and sold or used in Canada	
R-3 156(7)(b)	\$5.00	\$10.00	\$10.00	per gallon of the strength of proof and in addition thereto, under all tariffs, a rate of duty equal to the rate of duty applicable under the Excise Act to such alcohol if manufactured in Canada and sold or used in Canada	
R-4 *159b	\$3.00	\$3.00	\$3.00	per gallon, and 30	30
R-5 203	Free	Free	Free	Free	Free
R-6 *206	Free	Free	Free	Free	Free
R-7 208	Free	Free	Free	Free	Free
R-8 208g	Free	Free	Free	Free	5
R-9 208k	Free	Free	Free	Free	10
R-10 208t	Free	Free	Free	Free	25
R-11 208u	Free	Free	Free	Free	10
R-12 210b	10	15	15	15	25
R-13 210d	10	15	15	15	25
R-14 *211	Free	Free	Free	Free	Free

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
R-15 213	10	15	25	R-37(1)	Free	10	25
R-16 *224	15	22½	25	R-37(2)	Free	12½	25
R-17 240	Free	10	10	R-37(3)	Free	15	25
R-18 263b	Free	Free	25	R-37(4)	Free	Free	Free
R-19 *295a	Free	Free	Free	R-37(5)	10	15	25
R-20 296b(1)	15	15	30	R-37(6)	10	15	25
R-20 296b(2)	Free	15	25	R-37(7)	Free	15	25
R-21 296e	Free	Free	Free	R-37(8)	Free	5	15
R-22 326d	Free	Free	Free	R-38	Free	15	25
R-23 326f	Free	15	32½	R-39(1)	15	15	25
R-24 *333	Free	Free	Free	R-39(2)	Free	Free	10
R-25 *334	Free	Free	Free	R-40(1)	10	15	25
R-26 476b	Free	Free	Free	R-40(2)	Free	15	25
R-27 *584	Free	Free	Free	R-40A	Free	Free	10
R-28 *585	Free	Free	Free	R-40B	Free	15	25
R-29 590	Free	Free	Free	15.10(1)	Free	10	25
R-30 658b(1)	5	10	25	15.10(2)	10	15	25
R-30 658b(2)	15	20	25	15.10(3)	Free	Free	Free
R-31 663b	Free	Free	Free	15.10(4)	Free	Free	Free
R-32 *669	Free	Free	Free	15.11(1)	Free	Free	Free
R-33 *671	Free	Free	Free	15.11(2)	10	15	25
R-34 681d	Free	Free	25	25.01(1)	Free	3¢	5¢
R-35 791	Free	Free	Free	per 100 pounds	per 100 pounds	Free	Free
R-36(1)	Free	15	25	Free	Free	Free	Free
R-36(2)	10	15	25	5	5	10	15
R-36(3)	Free	10	25	Free	Free	3¢	5¢
R-36(4)	Free	Free	20	per 100 pounds of contained salt	per 100 pounds of contained salt		

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
25.03	Free	Free	Free	28.09	10	15	25
25.09	Free	7½	20				
28.01(1)	Free	Free	Free	28.10	Free	15	25
28.01(2)	10	15	25				
28.01(3)	Free	15	25	28.11(1)	Free	15	25
28.01(4)	10	15	25	28.11(2)	10	15	25
28.02	Free	Free	Free	28.12(1)	Free	Free	Free
				28.12(2)	Free	15	25
28.03	Free	Free	Free				
				28.13(1)	Free	15	25
28.04(1)	10	15	25	28.13(2)	10	15	25
28.04(2)	Free	15	25	28.13(3)	10	15	25
28.04(3)	Free	15	25	28.13(4)	Free	Free	Free
28.04(4)	5	10	15	28.13(5)	10	15	25
28.04(5)	Free	15	25	28.13(6)	10	15	25
28.04(6)	Free	15	25	28.13(7)	Free	Free	Free
28.04(7)	Free	15	25	28.13(8)	Free	Free	Free
28.04(8)	5	10	15				
28.04(9)	5	10	15	28.14(1)	Free	15	25
28.04(10)	Free	15	25	28.14(2)	Free	Free	Free
				28.14(3)	Free	Free	Free
28.05(1)	Free	15	25	28.14(4)	Free	Free	Free
28.05(2)	Free	Free	Free				
28.05(3)	Free	Free	Free	28.15(1)	Free	Free	Free
				28.15(2)	Free	5	20
28.06(1)	Free	15	25	28.15(3)	Free	15	25
28.06(2)	Free	Free	Free	28.15(4)	Free	15	25
28.07	Free	Free	Free	28.16	10	15	25
28.08	10	15	25				

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
28.17(1)	7½	7½	20	28.28(1)	Free	15	25
28.17(2)	Free	15	25	28.28(2)	Free	12½	25
28.17(3)	10	15	25	28.28(3)	10	15	25
28.17(4)	Free	15	25	28.28(4)	10	15	25
28.18(1)	Free	15	25	28.28(5)	Free	5	15
28.18(2)	Free	Free	Free	28.29(1)	Free	15	25
28.19	Free	12½	25	28.29(2)	10	15	25
28.20	Free	Free	Free	28.29(3)	10	15	25
28.21(1)	Free	15	25	28.29(4)	10	15	25
28.21(2)	10	15	25	28.29(5)	10	15	25
28.21(3)	10	15	25	28.29(6)	Free	Free	Free
28.22	Free	Free	Free	28.29(7)	10	15	25
28.23(1)	10	15	25	28.29(8)	10	15	25
28.23(2)	Free	15	25	28.30(1)	Free	15	25
28.24(1)	Free	15	25	28.30(2)	Free	10	20
28.24(2)	Free	10	20	28.30(3)	Free	Free	Free
28.25	Free	12½	25	28.30(4)	10	15	25
28.26	Free	15	25	28.30(5)	10	15	25
28.27(1)	Free	15	25	28.30(6)	Free	10	20
28.27(2)	Free	12½	25	28.31(1)	Free	15	25
				28.31(2)	Free	5	10
				28.31(3)	10	15	25
				28.32(1)	Free	15	25
				28.32(2)	10	15	25
				28.32(3)	Free	10	25
				28.33	Free	15	25

Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.
28.34(1)	Free	15	25
28.34(2)	10	15	25
28.34(3)	10	15	25
28.34(4)	10	15	25
28.34(5)	10	15	25
28.35(1)	Free	15	25
28.35(2)	Free	12 $\frac{1}{2}$	20
28.36(1)	Free	15	25
28.36(2)	Free	Free	Free
28.36(3)	Free	Free	Free
28.36(4)	Free	Free	Free
28.36(5)	Free	Free	Free
28.37(1)	Free	15	25
28.37(2)	Free	12 $\frac{1}{2}$	20
28.37(3)	Free	12 $\frac{1}{2}$	20
28.37(4)	Free	12 $\frac{1}{2}$	20
28.37(5)	10	15	25
28.38(1)	Free	15	25
28.38(2)	Free	10	15
28.38(3)	Free	10	15
28.38(4)	Free	10	15
28.38(5)	Free	10	15
28.38(6)	Free	10	15
28.38(7)	Free	Free	Free
28.38(8)	Free	Free	Free
28.38(9)	Free	Free	Free
28.38(10)	10	15	25
28.38(11)	Free	10	15
28.38(12)(i)	10	15	25
28.38(12)(ii)	Free	10	15
28.38(13)	10	15	25
28.38(14)	10	15	25
28.38(15)	10	15	25
28.38(16)(i)	10	15	25
28.38(16)(ii)	Free	Free	Free
28.38(17)	Free	Free	Free
28.38(18)	10	15	25
28.39(1)	Free	15	25
28.39(2)	10	15	25
28.39(3)	10	15	25
28.39(4)	Free	Free	Free
28.39(5)	Free	Free	Free
28.39(6)	Free	12 $\frac{1}{2}$	25
28.39(7)	Free	Free	Free
28.40(1)	Free	15	25
28.40(2)	10	15	25
28.40(3)	10	15	25
28.40(4)	10	15	25
28.40(5)	10	15	25
28.40(6)	10	15	25
28.40(7)	10	15	25
28.40(8)	10	15	25
28.41(1)	Free	15	25
28.41(2)	Free	10	15
28.41(3)	10	15	25

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
28.42(1)	Free	15	25	28.49(1)	Free	15	25
28.42(2)	10	15	25	28.49(2)	15	20	25
28.42(3)	10	15	25	28.49(3)	10	15	25
28.42(4)	10	15	25	28.49(4)	15	20	25
28.42(5)	Free	Free	Free	28.49(5)	10	15	20
28.42(6)	Free	12 $\frac{1}{2}$	20	28.49(6)	10	15	20
28.42(7)	10	15	25	28.49(7)	10	15	20
28.42(8)	10	15	25	28.49(8)	10	15	20
28.43(1)	Free	15	25	28.49(9)	10	15	20
28.43(2)	Free	Free	Free	28.49(10)	10	15	20
28.43(3)	Free	Free	Free	28.50	Free	Free	Free
28.43(4)	Free	Free	Free	28.51	Free	Free	Free
28.43(5)	Free	Free	Free	28.52(1)	Free	15	25
28.43(6)	Free	Free	Free	28.52(2)	10	15	25
28.44	Free	15	25	28.53	Free	Free	Free
28.45(1)	Free	15	25	28.54	Free	15	25
28.45(2)	Free	Free	Free	28.55(1)	Free	15	25
28.45(3)	Free	12 $\frac{1}{2}$	20	28.55(2)	Free	5	5
28.45(4)	Free	Free	Free	28.56(1)	Free	15	25
28.46(1)	Free	15	25	28.56(2)	Free	Free	Free
28.46(2)	Free	Free	Free	28.56(3)	5	10	20
28.47(1)	Free	15	25	28.57(1)	Free	15	25
28.47(2)	Free	12 $\frac{1}{2}$	25	28.57(2)	Free	Free	Free
28.47(3)	Free	12 $\frac{1}{2}$	25	28.57(3)	10	15	20
28.48(1)	Free	15	25				
28.48(2)	10	15	25				
28.48(3)	10	15	25				

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
28.58(1)	Free	15	25	29.02(1)	Free	15	25
28.58(2)	15	20	25	29.02(2)	10	15	25
28.58(3)	Free	Free	Free	29.02(3)	10	15	25
28.58(4)	Free	Free	Free	29.02(4)	10	15	25
29.01(1)	Free	15	25	29.02(5)	10	15	25
29.01(2)	10	15	25	29.02(6)	10	15	25
29.01(3)	Free	Free	Free	29.02(7)	Free	7 $\frac{1}{2}$	25
29.01(4)	Free	Free	Free	29.02(8)	10	15	25
29.01(5)	10	12 $\frac{1}{2}$	25	29.02(9)	Free	Free	Free
29.01(6)	Free	Free	Free	29.02(10)	10	15	25
29.01(7)	Free	Free	Free	29.02(11)	10	15	25
29.01(8)	10	15	25	29.02(12)	10	15	25
29.01(9)	Free	Free	Free	29.02(13)	10	15	25
29.01(10)	Free	7 $\frac{1}{2}$	7 $\frac{1}{2}$	29.02(14)	10	15	25
29.01(11)	Free	Free	Free	29.02(15)	12 $\frac{1}{2}$	17 $\frac{1}{2}$	25
29.01(12)	Free	Free	Free	29.02(16)	10	15	25
29.01(13)	10	15	25	29.03(1)	Free	15	25
29.01(14)	10	15	25	29.03(2)	10	15	25
29.01(15)	"Deleted"			29.03(3)	10	15	25
29.01(16)				29.03(4)	10	15	25
29.01(17)	Free	Free	Free	29.03(5)	10	15	25
29.01(18)	10	12 $\frac{1}{2}$	25	29.03(6)	10	15	25
29.01(19)	Free	Free	Free	29.03(7)	10	15	25
29.01(20)	10	15	25	29.03(8)	10	15	25
29.01(21)	Free	Free	Free	29.03(9)	10	15	25
29.01(22)	Free	Free	Free	29.03(10)	10	15	25
				29.03(11)	10	15	25
				29.03(12)	10	15	25

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
29.04(1)	Free	15	25	29.06(8)	10	15	25
29.04(2)	Free	Free	Free	29.06(9)	Free	7½	7½
29.04(3)	10	15	25	29.06(10)	10	15	25
29.04(4)	Free	7½	7½	29.06(11)	10	15	25
29.04(5)	10	10	25	29.06(12)	10	15	25
29.04(6)	10	15	25				
29.04(7)	10	15	25	29.07(1)	Free	15	25
				29.07(2)	10	15	25
29.04(8)	5	10	20	29.07(3)	10	15	25
29.04(9)	10	15	25	29.07(4)	10	15	25
29.04(10)	10	15	25	29.07(5)	10	15	25
29.04(11)	10	15	25				
29.04(12)	10	15	25	29.08(1)	Free	15	25
29.04(13)	10	15	25	29.08(2)	10	15	25
29.04(14)	10	15	25	29.08(3)	10	15	25
29.04(15)	10	15	25	29.08(4)	10	15	25
				29.08(5)	10	15	25
29.05(1)	Free	15	25	29.08(6)	10	15	25
29.05(2)	10	15	25				
29.05(3)	Free	7½	7½	29.08(7)	10	15	25
29.05(4)	Free	Free	Free	29.08(8)	10	15	25
29.05(5)	10	15	25	29.08(9)	10	15	25
29.05(6)	Free	Free	Free	29.08(10)	10	15	25
				29.08(11)	10	15	25
29.06(1)	Free	15	25	29.08(12)	Free	7½	7½
29.06(2)	10	15	25				
29.06(3)	10	15	25	29.08(13)	10	15	25
29.06(4)	10	15	25	29.08(14)	10	15	25
29.06(5)	10	15	25	29.08(15)	10	15	25
29.06(6)	10	15	25	29.08(16)	10	15	25
29.06(7)	10	15	25	29.08(17)	10	15	25
				29.08(18)	10	15	25

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
29.08(19)	10	15	25	29.13(6)	Free	$7\frac{1}{2}$	$7\frac{1}{2}$
29.08(20)	10	15	25	29.13(7)	10	15	25
29.08(21)	10	15	25	29.13(8)	10	15	25
29.08(22)	10	15	25	29.13(9)	10	15	25
29.08(23)	10	15	25	29.13(10)	10	15	25
29.09(1)	Free	15	25	29.13(11)	10	15	25
29.09(2)	Free	Free	10	29.13(12)	10	15	25
29.09(3)	10	15	25	29.13(13)	10	15	25
29.09(4)	10	15	25	29.13(14)	10	15	25
29.10(1)	Free	15	25	29.14(1)	Free	15	25
29.10(2)	Free	$7\frac{1}{2}$	$7\frac{1}{2}$	29.14(2)	10	15	25
29.11(1)	Free	15	25	29.14(3)	10	15	25
29.11(2)	10	15	25	29.14(4)	10	15	25
29.11(3)	10	15	25	29.14(5)	Free	Free	10
29.11(4)	10	15	25	29.14(6)	10	15	25
29.11(5)	10	15	25	29.14(7)	10	15	25
29.11(6)	Free	$7\frac{1}{2}$	$7\frac{1}{2}$	29.14(8)	10	15	25
29.11(7)	10	15	25	29.14(9)	10	15	25
29.11(8)	5	10	20	29.14(10)	10	15	25
29.11(9)	10	15	25	29.14(11)	15	20	$32\frac{1}{2}$
29.11(10)	10	15	25	29.14(12)	10	15	25
29.12	Free	15	25	29.14(13)	10	15	25
29.13(1)	Free	15	25	29.14(14)	10	15	25
29.13(2)	10	15	25	29.14(15)	10	15	25
29.13(3)	Free	5	25	29.14(16)	10	15	25
29.13(4)	10	15	25	29.14(17)	10	15	25
29.13(5)	10	15	25	29.14(18)	10	15	25
				29.14(19)	10	15	25
				29.14(20)	10	15	25

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
29.14(21)	10	15	25	29.14(49)	Free	Free	10
29.14(22)		"Deleted"		29.14(50)	10	15	25
29.14(23)	10	15	25	29.14(51)	10	15	25
29.14(24)	Free	Free	Free	29.14(52)	10	15	25
29.14(25)	10	15	25	29.14(53)	15	20	32½
29.14(26)	10	15	25	29.14(54)	10	15	25
29.14(27)	10	15	25	29.14(55)	10	15	25
29.14(28)	10	15	25	29.14(56)	10	15	25
29.14(29)	10	15	25	29.14(57)	10	15	25
29.14(30)	Free	7½	7½	29.14(58)	10	15	25
29.14(31)	10	15	25	29.14(59)	15	20	32½
29.14(32)	Free	Free	10	29.14(60)	10	15	25
29.14(33)	Free	12½	25	29.14(61)	15	20	32½
29.14(34)	10	15	25	29.14(62)	10	15	25
29.14(35)	10	15	25	29.14(63)	10	15	25
29.14(36)	10	15	25	29.14(64)	10	15	25
29.14(37)	10	15	25	29.14(65)	10	15	25
29.14(38)	10	15	25	29.15(1)	Free	15	25
29.14(39)	10	15	25	29.15(2)	10	15	25
29.14(40)	Free	10	25	29.15(3)	10	15	25
29.14(41)	10	15	25	29.15(4)	10	15	25
29.14(42)	10	15	25	29.15(5)	10	15	25
29.14(43)	10	15	25	29.15(6)	10	15	25
29.14(44)	10	15	25	29.15(7)	10	15	25
29.14(45)	10	15	25	29.15(8)	10	15	25
29.14(46)	10	15	25	29.15(9)	10	15	25
29.14(47)	10	15	25	29.15(10)	10	15	25
29.14(48)	Free	Free	10	29.15(11)	10	15	25
				29.15(12)	10	15	25

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
29.15(13)	10	15	25	29.16(4)	10	15	25
29.15(14)	10	15	25	29.16(5)	10	15	25
29.15(15)	10	15	25	29.16(6)	10	15	25
29.15(16)	10	15	25	29.16(7)	10	15	25
29.15(17)	10	15	25	29.16(8)	10	15	25
29.15(18)	10	15	25	29.16(9)	10	15	25
29.15(19)	10	15	25	29.16(10)	10	15	25
29.15(20)	10	15	25	29.16(11)	10	15	25
29.15(21)	10	15	25	29.16(12)	Free	Free	25
29.15(22)	10	15	25	29.16(13)	10	15	25
29.15(23)	10	15	25	29.16(14)	10	15	25
29.15(24)	10	15	25	29.16(15)	Free	7½	7½
29.15(25)	Free	Free	10	29.16(16)	Free	Free	Free
29.15(26)	10	15	25	29.16(17)	10	15	25
29.15(27)	10	15	25	29.16(18)	10	15	25
29.15(28)	10	15	25	29.16(19)	10	15	25
29.15(29)	10	15	25	29.16(20)	10	15	25
29.15(30)	10	15	25	29.16(21)	10	15	25
29.15(31)	10	15	25	29.16(22)	Free	Free	25
29.15(32)	10	15	25	29.16(23)	Free	10	25
29.15(33)	10	15	25	29.16(24)	10	15	25
29.15(34)	10	15	25	29.16(25)	10	15	25
29.15(35)	10	15	25	29.16(26)	10	15	25
29.15(36)	10	15	25	29.16(27)	10	15	25
29.15(37)	10	15	25	29.16(28)	10	15	25
29.16(1)	Free	15	25	29.16(29)	Free	10	25
29.16(2)	Free	Free	Free	29.16(30)	10	15	25
29.16(3)	Free	Free	Free				

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
29.17(1)	Free	15	25	29.19(8)	10	15	25
29.17(2)	10	15	25	29.19(9)	10	15	25
29.17(3)	10	15	25	29.19(10)	10	15	25
29.17(4)	Free	Free	Free	29.19(11)	10	15	25
29.17(5)	10	15	25				
29.17(6)	10	15	25	29.20	Free	15	25
29.17(7)	10	15	25				
				29.21	Free	15	25
29.17(8)	10	15	25				
29.17(9)	10	15	25	29.22(1)	Free	15	25
29.17(10)	10	15	25	29.22(2)	10	15	25
29.17(11)	10	15	25	29.22(3)	10	15	25
29.17(12)	10	15	25	29.22(4)	10	15	25
29.17(13)	10	15	25	29.22(5)	10	15	25
				29.22(6)	10	15	25
29.18(1)	Free	15	25				
29.18(2)	Free	7½	7½	29.22(7)	10	15	25
29.18(3)	\$3.00	\$3.00	\$3.00	29.22(8)	10	15	25
	per gallon, and			29.22(9)	10	15	25
	30	30	30	29.22(10)	10	15	25
29.18(4)	10	15	25	29.22(11)	10	15	25
29.18(5)	10	15	25	29.22(12)	10	15	25
29.18(6)	10	15	25				
29.18(7)	10	15	25	29.22(13)	10	15	25
				29.22(14)	10	15	25
29.19(1)	Free	15	25	29.22(15)	10	15	25
29.19(2)	10	15	25	29.22(16)	10	15	25
29.19(3)	10	15	25	29.22(17)	10	15	25
29.19(4)	10	15	25				
29.19(5)	10	15	25	29.23(1)	Free	15	25
29.19(6)	10	15	25	29.23(2)	10	15	25
29.19(7)	10	15	25	29.23(3)	10	15	25

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
29.23(4)	10	15	25	29.26(1)	Free	15	25
29.23(5)	10	15	25	29.26(2)	10	15	25
29.23(6)	10	15	25	29.26(3)	10	15	25
29.23(7)	10	15	25	29.26(3A)	10	15	25
29.23(8)		"Deleted"		29.26(4)	10	15	25
				29.26(5)	10	15	25
29.23(9)	10	15	25	29.27(1)	Free	15	25
29.23(10)	10	15	25	29.27(2)	10	15	25
29.23(11)	10	15	25	29.27(3)	10	15	25
29.23(12)		"Deleted"		29.27(4)	10	15	25
29.23(13)	10	15	25	29.27(5)	10	15	25
29.24(1)	Free	15	25	29.28	Free	15	25
29.24(2)	10	15	25				
29.24(3)	10	15	25	29.29	Free	15	25
29.25(1)	Free	15	25	29.30(1)	Free	15	25
29.25(2)	10	15	25	29.30(2)	10	15	25
29.25(3)	10	15	25				
29.25(4)	10	15	25	29.31(1)	Free	15	25
29.25(5)	10	15	25	29.31(2)	10	15	25
29.25(6)	10	15	25	29.31(3)	10	15	25
29.25(7)	10	15	25	29.31(4)	10	15	25
				29.31(5)	10	15	25
29.25(8)	10	15	25	29.31(6)	10	15	25
29.25(9)	10	15	25				
29.25(10)	10	15	25	29.31(7)	10	15	25
29.25(11)	10	15	25	29.31(8)	10	15	25
29.25(12)	10	15	25	29.31(9)	10	15	25
29.25(13)	10	15	25	29.31(10)	10	15	25
29.25(14)	Free	Free	Free	29.31(11)	10	15	25
				29.31(12)	10	15	25

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
29.31(13)	10	15	25	29.35(15)	10	15	25
29.31(14)	10	15	25	29.35(16)	10	15	25
29.31(15)	10	15	25	29.35(17)	10	15	25
29.31(16)	10	15	25	29.35(18)	10	15	25
29.31(17)	10	15	25	29.35(19)	10	15	25
29.31(18)	10	15	25	29.35(20)	10	15	25
29.32	Free	15	25	29.35(21)	10	15	25
29.33	Free	15	25	29.35(22)	10	15	25
29.34(1)	Free	15	25	29.36(1)	Free	15	25
29.34(2)	10	15	25	29.36(2)	10	15	25
29.34(3)	10	15	25	29.36(3)	10	15	25
29.34(4)	10	15	25	29.36(4)	10	15	25
29.34(5)	10	15	25	29.36(5)	10	15	25
29.35(1)	Free	15	25	29.37	Free	15	25
29.35(2)	10	15	25	29.38(1)	Free	15	25
29.35(3)	10	15	25	29.38(2)	10	15	25
29.35(4)	5	5	15	29.38(3)	10	15	25
29.35(5)	10	15	25	29.38(4) (a)	Free	15	25
29.35(6)	10	15	25	29.38(4) (b)	10	15	25
29.35(7)	10	15	25	29.38(5)	10	15	25
29.35(8)	10	15	25	29.38(6)	10	15	25
29.35(9)	10	15	25	29.38(7)	10	15	25
29.35(10)	Free	7 $\frac{1}{2}$	7 $\frac{1}{2}$	29.38(8)	10	15	25
29.35(11)	10	15	25	29.38(9)	10	15	25
29.35(12)	10	15	25	29.39(1)	Free	15	25
29.35(13)	10	15	25	29.39(2)	10	15	25
29.35(14)	10	15	25	29.39(3)	10	15	25
				29.39(4)	10	15	25

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
29.39(5)	10	15	25	31.00(1)	Free	Free	Free
29.39(6)	10	15	25	31.00(2)	Free	Free	Free
29.39(7)	10	15	25	32.01	Free	Free	Free
29.40(1)	Free	15	25	32.02(1)	Free	Free	Free
29.40(2)	10	15	25	32.02(2)	Free	15	25
29.40(3)	10	15	25	32.03(1)	Free	Free	Free
29.40(4)	10	15	25	32.03(2)	10	15	25
29.40(5)	Free	5	17½	32.04(1)	Free	Free	Free
29.40(6)	10	15	25	32.04(2)	10	10	25
29.40(7)	Free	Free	Free	32.05(1)	Free	Free	10
29.40(8)	10	15	25	32.05(2)	Free	5	10
29.41(1)	Free	15	25	32.05(3)	Free	5	10
29.41(2)	10	15	25	32.05(4)	10	15	25
29.41(3)	10	15	25	32.06	10	15	25
29.42(1)	Free	15	25	32.07(1)	Free	5	15
29.42(2)	Free	Free	10	32.07(2)	"Deleted"	"Deleted"	"Deleted"
29.42(3)	Free	Free	Free	32.07(3)	5	10	20
29.42(4)	Free	Free	Free	32.07(3A)	10	15	25
29.43(1)	Free	15	25	32.07(4)	Free	Free	10
29.43(2)	10	15	25	32.07(5)	Free	12½	25
29.44(1)	Free	15	25	32.07(6)	"Deleted"	"Deleted"	"Deleted"
29.44(2)	10	15	25	32.07(7)	Free	12½	25
29.44(3)	10	15	25	32.07(8)	Free	10	15
29.44(4)	10	15	25	32.07(9)	Free	12½	25
29.45(1)	Free	15	25	32.08	10	15	25
29.45(2)	Free	7½	15				

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
32.09(1)	10	15	25	38.05	Free	Free	Free
32.09(2)	Free	Free	10	38.06	10	15	25
32.10(1)	Free	15	25	38.07	Free	Free	Free
32.10(2)	10	15	25	38.08	Free	Free	Free
32.11	10	15	25	38.09	Free	Free	Free
32.12(1)	10	15	25	38.10	Free	Free	Free
32.12(2)	15	20	27½	38.11	Free	Free	Free
32.12(3)	15	22½	25	38.12(1)	10	15	25
32.13	10	15	25	38.12(2)	10	10	20
34.02	10	15	25	38.12(3)	Free	Free	Free
36.01(1)	Free	Free	Free	38.12(4)	Free	7½	10
36.01(2)	5	10	20	38.13	10	15	25
36.02(1)	10	15	25	38.14(1)	10	15	25
36.02(2)	5	10	20	38.14(2)	5	10	25
36.02(3)	5	10	20	38.15	10	15	25
37.08	10	15	25	38.16	Free	Free	Free
38.02	Free	Free	Free	38.17	10	15	25
38.03(1)	Free	Free	Free	38.18	10	15	25
38.03(2)	10	15	25				
38.04	10	15	25				

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
38.19(1)	10	15	25	39.01(b)4	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(2)	5	10	25	39.01(b)5	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(3)	15	15	25	39.01(b)6	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(4)	Free	Free	25	39.01(b)7	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(5)	Free	Free	25	39.01(b)8	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(6)	Free	Free	15	39.01(b)9	10	10	20
38.19(7)	Free	Free	15	39.01(c)1	Free	Free	10
38.19(8)	10	10	25	39.01(c)2	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(9)	10	10	25	39.01(c)3	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(10)	Free	15	25	39.01(c)4	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(11)	Free	Free	25	39.01(c)5	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
38.19(12)	Free	Free	25	39.01(c)6	7 $\frac{1}{2}$	7 $\frac{1}{2}$	25
39.01(a)1	Free	Free	10	39.01(c)7	7 $\frac{1}{2}$	7 $\frac{1}{2}$	25
39.01(a)2	10	10	20	39.01(c)8	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
39.01(a)3	10	10	20	39.01(c)9	10	10	25
39.01(a)4	10	10	20	39.01(d)	15	15	25
39.01(a)5	10	10	20	39.01(e)	15	17 $\frac{1}{2}$	25
39.01(a)6	7 $\frac{1}{2}$	7 $\frac{1}{2}$	20	39.01(f)	15	15	25
39.01(a)7	10	10	20	39.01(g)1	Free	Free	10
39.01(a)8	7 $\frac{1}{2}$	7 $\frac{1}{2}$	20	39.01(g)2	17 $\frac{1}{2}$	17 $\frac{1}{2}$	25
39.01(a)9	10	10	20	39.01(g)3	17 $\frac{1}{2}$	17 $\frac{1}{2}$	25
39.01(a)10	10	10	20	39.01(g)4	17 $\frac{1}{2}$	17 $\frac{1}{2}$	25
39.01(a)11	10	10	20	39.01(g)5	17 $\frac{1}{2}$	17 $\frac{1}{2}$	25
39.01(a)12	7 $\frac{1}{2}$	7 $\frac{1}{2}$	20	39.01(g)6	17 $\frac{1}{2}$	17 $\frac{1}{2}$	25
39.01(b)1	7 $\frac{1}{2}$	7 $\frac{1}{2}$	20	39.01(g)7	17 $\frac{1}{2}$	17 $\frac{1}{2}$	25
39.01(b)2	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25				
39.01(b)3	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25				

Tariff Item	Rates of Duty			Tariff Item	Rates of Duty		
	B.P.	M.F.N.	G.T.		B.P.	M.F.N.	G.T.
39.02(a)1	Free	Free	10	39.02(g)1	Free	Free	10
39.02(a)2	10	17½	25	39.02(g)2	17½	17½	25
39.02(a)3	7½	15	25	39.02(g)3	15	15	25
39.02(a)4	7½	10	20	39.02(g)4	10	10	20
39.02(a)5	7½	15	25	39.02(g)5	15	15	25
39.02(a)6	10	17½	25	39.02(g)6	17½	17½	25
39.02(a)7	10	20	25	39.02(g)7	17½	20	25
39.02(a)8	10	10	25	39.02(g)8	17½	17½	25
39.02(a)9	10	10	25	39.02(g)9	17½	17½	25
39.02(b)1	7½	Free	10	39.03(a)1	Free	Free	10
39.02(b)2	12½	10	20	39.03(a)2	5	10	20
39.02(b)3	12½	15	25	39.03(a)3	10	15	25
39.02(b)4	12½	15	25	39.03(b)	7½	7½	20
39.02(c)1	Free	Free	10	39.03(c)	Free	Free	10
39.02(c)2	12½	12½	25	39.03(d)	7½	7½	20
39.02(c)3	10	10	20	39.03(e)	15	17½	25
39.02(c)4	10	10	20	39.03(f)	15	15	25
39.02(c)5	12½	12½	25	39.03(g)1	Free	Free	10
39.02(c)6	12½	12½	25	39.03(g)2	10	10	20
39.02(c)7	12½	12½	25	39.03(g)3	10	10	20
39.02(c)8	12½	12½	25	39.03(g)4	10	15	25
39.02(d)	15	15	25	39.04	Free	Free	10
39.02(e)	15	17½	25				
39.02(f)	15	15	25				

<u>Tariff Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>	<u>Drawback Item</u>	<u>Portion of Duty Payable as Drawback</u>
39.05(1)	Free	Free	10	R-41	99 p.c. of the additional duty imposed by the last part of paragraph (c) of Rec. Item R3 156(7)
39.05(2)	7½	7½	20		
39.05(3)	7½	7½	20		
39.05(4)	10	10	20		
39.06(1)	Free	15	25	R-42 1026	99 p.c.
39.06(2)	Free	Free	15		
39.06(3)	10	15	25		
39.07	20	20	30	R-43 1046	99 p.c.



Report by THE TARIFF BOARD

Relative to the Inquiry Ordered
by the Minister of Finance
respecting

CHEMICALS



VOLUME 4

Part I

Summary and Conclusions



Reference No. 120

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Director of Research	Secretary

PANEL FOR THIS INQUIRY

L.C. Audette, Chairman
F.L. Corcoran
G.A. Elliott
Léo Gervais

The Honourable Mitchell Sharp, P.C., M.P.
Minister of Finance
Ottawa

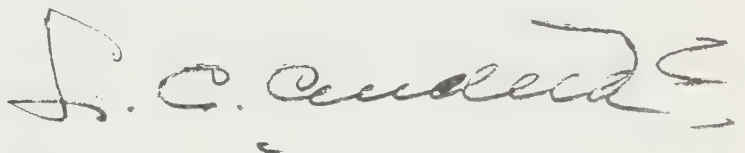
Dear Mr. Sharp:

I refer to Mr. Harris' letter of September 21, 1956 and to Mr. Fleming's letters of October 11, 1957 and December 21, 1959 in which the Tariff Board was requested to conduct an inquiry respecting chemicals.

In conformity with Section 6 of the Tariff Board Act, I have the honour to transmit Part I of Volume 4 of the Report of the Board, in English and in French. This volume contains the Summary and Conclusions. Further volumes will be forwarded to you as soon as they have been completed.

A copy of the transcript of the proceedings at the public hearings accompanied the first volume of the Report.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "J. C. Audette". The signature is fluid and cursive, with a long horizontal stroke at the end.

Chairman

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Prefatory Note

Part I of Volume 4 of the Board's report contains summary information and statements concerning the Board's conclusions on the classification and description of goods and the rates of duty as tabulated in the schedule of Recommended Items in Volume 1.

The order of presentation of the Summary and Conclusions in Part I of this volume follows the numerical sequence of the Recommended Items in Volume 1 except for the incorporation of the changes which result from the corrigenda to the Recommended Schedule. The Corrigenda are published in Volume 3 of the report; they may also be obtained separately from the Queen's Printer.

Part II of Volume 4 will contain some general considerations as well as comments on such broad matters as end-use items, nomenclature, the chemical industry and the distinction between products of a class or kind made and not made in Canada. These matters came before the Board not only in the context of individual products but also in the more general context of an appropriate tariff structure for chemical products and for the industry as a whole.

A tabulation of the contents of the other volumes of the Board's report on Reference 120 appears on a preceding page of this volume under the title, A Note on the Organization of the Report - Reference 120.

SUMMARY AND CONCLUSIONS

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-1 *90f - Vegetable materials for use as flavourings	10	10	25

This Recommended Item would provide, without change in rates, for the residual contents of existing item *90f, which is not in Reference 120, when the edible colouring materials are relocated in Recommended Item 32.04(2), also without change in rates of duty.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-2 156(6) - Spirituous or alcoholic liquors, n.o.p.; absinthe, arrack or palm spirit, artificial brandy and imitations of brandy, n.o.p.; cordials of all kinds, n.o.p.; mescal, pulque, rum shrub, schiedam and other schnapps; tafia, and alcoholic bitters or beverages, n.o.p.; and wines, n.o.p., contain- ing more than forty per cent of proof spirit per gallon of the strength of proof and in addition thereto, under all tariffs, \$9.00 per gallon of the strength of proof	\$5.00	\$10.00	\$10.00

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-3 156(7) - Ethyl alcohol undenatured, denatured or specially denatured: (a) Ethyl alcohol for use as a spirituous or alcoholic beverage or for the manu- facture of spirituous or alcoholic beverages, per gallon of the strength of proof and in addition thereto, under all tariffs, \$9.00 per gallon of the strength of proof	\$5.00	\$10.00	\$10.00

Recommended ItemB.P. M.F.N. G.T.

R-3 (b) Ethyl alcohol denatured, or
 (Cont'd) specially denatured, other-
 wise than in accordance with
 the specifications prescribed
 by the Excise Act and the
 Regulations made thereunder,
 per gallon of the strength of
 proof \$5.00 \$10.00 \$10.00
 and in addition thereto, under all
 tariffs,
 \$9.00 per gallon of the strength
 of proof

(c) Ethyl alcohol denatured, or
 specially denatured, in
 accordance with the specifi-
 cations prescribed by the
 Excise Act and the Regula-
 tions made thereunder and
 ethyl alcohol, n.o.p.; the
 foregoing subject to such
 regulations as the Minister
 may prescribe,
 per gallon of the strength of
 proof 10¢ 20¢ 40¢
 and in addition thereto, under all
 tariffs, a rate of duty equal to the
 rate of duty applicable under the
 Excise Act to such alcohol if manu-
 factured in Canada and sold or used
 in Canada.

<u>Tariff</u> <u>Item</u>	<u>Goods</u>	<u>When Subject to Drawback</u>	<u>Portion of</u> <u>Duty Payable</u> <u>as Drawback</u>
R-41	Ethyl alcohol	Under the conditions speci- fied in the Excise Act for drawback of Excise duty had such alcohol been manufactured in Canada and sold or used in Canada ...	99 p.c. of the additional duty imposed by the last part of paragraph (c) of Recommended Item R-3 156(7)

The products which would be classified in these three
 Recommended Items are discussed in the Volume of the Report dealing
 with Brussels headings 29.04 and 29.05; they are covered in Brussels
 headings 22.08 and 22.09.

Of the products included in Brussels headings 22.08 and 22.09, only ethyl alcohol forms part of the Board's study; it was referred to the Board by the Minister in the following terms: "It is my intention that the Board include in its study also item 156(f) with reference to ethyl alcohol...". Tariff item 156(f) became re-numbered as tariff item 156(6) shortly after the Minister's reference and before the Customs Tariff Renumbering Order 1965-1 by virtue of which it still later became tariff item 15630-1. Ethyl alcohol is also known as: alcohol, Cologne spirits, ethanol, ethyl hydroxide, fermentation alcohol, grain alcohol, hydrated oxide of ethyl, neutral spirits and spirits of wine.

For ethyl alcohol the Board finds no advantages at this time in adopting the Brussels Nomenclature; because of the other parts of tariff item 156 - which are not part of the Reference - it appears to be more convenient for all concerned to make any recommended changes by way of amendment to tariff item 156.

The Board has interpreted the reference by the Minister to exclude the beverage uses of ethyl alcohol and has governed its recommendations accordingly; it has sought to deal only with the industrial uses of the product to the exclusion of beverage uses.

Ethyl alcohol, in its production, use and sale is subject to rigorous and complicated controls at the various levels of government; for industrial use, it is frequently made unsuitable for beverage use by a process known as denaturing; the denaturants approved in Canada are set out in Regulations made under the Excise Act and are not always the same as those used in other countries.

Ethyl alcohol may be produced from sugar-containing substances, from ethylene and from the sulphite waste liquor of certain wood pulp operations. In Canada ethyl alcohol is made by fermentation processes and not from ethylene; of the industrial ethyl alcohol nearly 70 per cent of domestic production comes from the fermentation of sulphite waste liquor.

There are no imports of ethyl alcohol and Canadian productive capacity was said to be adequate to supply the domestic market. Eleven companies were said to produce undenatured ethyl alcohol and denatured ethyl alcohol for industrial use and some additional distillers of beverage alcohols occasionally supply ethyl alcohol to the industrial market.

In 1961, 33.7 million proof gallons of ethyl alcohol were produced in Canada, valued for inventory at \$17.4 million; of this total 4.7 million proof gallons similarly valued at \$1.7 million were produced as industrial alcohol; in the same year sales of industrial alcohol amounted to \$3.9 million; during the preceding five years production of industrial alcohol had ranged around 6 million proof gallons annually. The major part of the industrial alcohol is denatured; the greater part of the undenatured industrial alcohol is used to make vinegar. More than half of the market consists of purchases in small quantities.

In the same year, the published price, in Canada, for 165 proof (94.11 per cent alcohol by volume) ethyl alcohol ranged from 96 cents in tank car lots to \$1.06 per gallon in drums, or a little over 55 cents per proof gallon; the published price of denatured alcohol ranged from 87 cents per gallon in tank car lots to 97 per gallon in drums, or a little over 50 cents per proof gallon. The published price in the United States, converted to a basis of imperial gallons and Canadian funds for accuracy of comparison, for 165 proof alcohol (U.S.A. 190 proof spirit), undenatured or denatured, was in the vicinity of 65 cents per gallon or about 35 cents per proof gallon.

Ethyl alcohol is now entered under tariff item 156(6) at specific rates of \$14.00 per proof gallon, B.P., and \$19.00 per proof gallon, M.F.N. There is also provision for free entry under all Tariffs under the special conditions of tariff item 157 but the Board understands that this item has not been used since World War II.

The Association of Canadian Distillers, not unexpectedly, sought no disturbance of the present tariff status; a group of three producers sought a rate of \$9.30 per proof gallon to prevent any imports or, if the simplicity of the Association's proposal commended itself to the Board, the three producers expressed contentment with the Association's proposal.

The present tariff, by preventing importation through rates equivalent to about 5400 per cent in the case of M.F.N. countries, attains two objectives stressed by the producers: one, of course, is protection of domestic industry and the other is the elimination of administrative problems arising out of the application to imported alcohol of regulations largely drafted for application to alcohol domestically produced.

Though an ad valorem equivalent of 5400 per cent on imported alcohol may appear high even to a casual observer it must be considered in the light of certain excise duties applicable, under the Excise Act, to domestically produced alcohol; under the Excise Act certain domestic alcohols are free of excise duty and others subject to varying excise duties running as high as \$13.00 per proof gallon which is in the neighbourhood of 2400 per cent on domestic alcohol and would be about 3700 per cent were it applicable to imported alcohol at United States prices; however most of the domestic alcohols for industrial use are subject to much lower excise duties ranging from Free to \$1.50 per proof gallon or a little under 300 per cent; there is also, under the Excise Act, an excise duty of 30 cents per proof gallon upon imported spirits (ethyl alcohol) when taken into a bonded manufactory. The Board's recommendation for specific rates of customs duties in Recommended Item R-3(c) is intended to be in substitution for this last excise duty and not in addition to it; the recommendation consequently involves an amendment to the Excise Act to remove this last excise duty.

For the industrial alcohols of R-3(c) the Board is proposing specific rates of 10 cents, B.P.; and 20 cents, M.F.N., per gallon of the strength of proof.

To prevent hardship because of excise duties applicable to such domestic alcohol and not applicable to the imported alcohol the Board recommends, in addition to these specific rates, under all Tariffs, a rate of duty equal to the rate of duty applicable under the Excise Act to such alcohol, if manufactured in Canada and sold or used in Canada.

Further to prevent hardship, the Board is recommending a drawback item to meet certain special conditions. The Excise Act provides for drawback of excise duties under certain conditions. The Board's objective in the last paragraph of Recommended Item R-3 is to subject the imported alcohol to additional customs duties equal to the rate of duty applicable under the Excise Act to such alcohol if manufactured in Canada and sold or used in Canada. Its objective of parity of status in this respect would be ill served without a drawback of the additional customs duties equivalent to the drawback of the corresponding excise duties on the domestic product. To meet this issue the Board recommends in item R-41, a drawback of 99 per cent of the additional duty imposed by the last part of paragraph (c) of Recommended tariff item R-3 under the conditions specified in the Excise Act for the drawback of excise duty had the alcohol been manufactured in Canada and sold or used in Canada.

Recommended Item R-3(c) would cover undenatured alcohol for other than beverage use and alcohol denatured in accordance with the specifications prescribed by the Excise Act and the Regulations made under the Act; alcohol otherwise denatured would remain subject to the present rates of duty in R-3(b) as would undenatured alcohol for use as an alcoholic beverage or for the manufacture of alcoholic beverages in R-3(a).

To give effect to its recommendations the Board, in Recommended Item R-2 is recommending the deletion from part (6) of tariff item 156 of the initial words: "Ethyl alcohol, or the substance commonly known as alcohol, hydrated oxide of ethyl or spirits of wine, n.o.p.;" and, the enactment of a new part (7) of tariff item 156 in the terms of Recommended Item R-3. For the drawback of 99 per cent of the additional duty imposed by the last part of paragraph (c) of Recommended Item R-3, the Board is recommending the enactment of drawback item R-41.

<u>Recommended Item</u>		<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-4	*159b - Sweet spirits of nitre and aromatic spirits of ammonia			
	per gallon	\$3.00	\$3.00	\$3.00
	and	30	30	30

This Recommended Item would provide, without change in rates of duty, for those parts of the contents of existing item *159b that would remain after the relocation of ethyl nitrite (nitrous ether) in Recommended Item 29.18 (3), also without change in rates.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-5 203 - Non-edible seeds, beans, nuts, berries, plants, weeds, barks and woods, in a crude state or chipped or ground, when adapted for tanning or dyeing; turmeric and nutgalls; annatto pulp	Free	Free	Free

This Recommended Item would provide, without change in rates of duty, for the contents of existing item 203 which would be excluded from the four-digit recommended items in order to maintain consistency in the nomenclature. The substances of this Recommended Item consist principally of the vegetable raw materials used in the production of more refined chemicals and materials such as dyes and extracts. Some of these materials are discussed in the notes on such Recommended Items as 32.01, 32.02, 32.04, 32.05, and 38.06.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-6 *206 - Dragon's blood; fuller's earth, in bulk only, not prepared for toilet or other purposes; litmus and all lichens, prepared or not prepared; musk, in pods or in grain; quassia juice; saffron, saffron cake, safflower; cochineal; ferment cultures to be used in butter-making	Free	Free	Free

This Recommended Item would provide for the residual contents of existing item *206 if salts of quinine are relocated in Recommended Item 29.42 (4), salts of quinidine in Recommended Item 29.42 (3) and extracts of safflower and of saffron in Recommended Item 32.04. Specific provision is continued in Recommended Item R-6 for litmus and prepared lichens, even when in the nature of colouring materials; these would otherwise be classified in Recommended Item 32.04.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-7 208 - Argols Arsenic sulphides, natural Boric acid, crude natural Copper, crude precipitate of Sodium borates, crude natural, and concentrates thereof, calcined or not	Free	Free	Free

This Recommended Item would make provision for the substances of existing item 208 which are excluded from the four-digit recommended items based on the Brussels Nomenclature. No provision is made in such items for argols or crude precipitate of copper, nor for the crude forms of the other named substances. For the artificial or refined forms of arsenic sulphides and boric acid, free entry would be provided respectively by Recommended Items 28.15(1) and 28.12(1).

With respect to the sodium borates there appears to be some possibility of confusion: the term "borax" is sometimes used as a synonym for the natural sodium borate of this item; in commerce, it is also used to designate the forms of sodium tetraborate which are crystallised from a solution or chemically produced; for the latter, free entry would be provided by Recommended Item 28.46(2).

For all the products of Recommended Item R-7 the Board recommends continued free entry under all tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-8 208g - Barium-cadmium complex, barium-silicon complex, calcium-magnesium complex, calcium-silicon complex; calcium molybdate, tungsten oxide, vanadium oxides, whether in powder, in lumps, or formed into briquettes by the use of a binding material; all the foregoing when for use in the manufacture of steel under such regulations as the Minister may prescribe	Free	Free	5

Barium-cadmium complex, barium-silicon complex, calcium-magnesium complex and calcium-silicon complex are now imported into Canada from the United States for resale to the steel industry for use in the manufacture of specialty steels. The market is small and they are not produced in Canada; they are now dutiable under tariff items 711 or 220a(i) at rates of 15 p.c., B.P. and 20 p.c., M.F.N. For other uses they would be classified in Recommended Item 38.19 (1) or in existing item 711. Union Carbide Canada Ltd. proposed that they be admitted free of duty while not made in Canada. In Recommended Item R-8, the Board recommends free entry when for use in the manufacture of steel.

This Recommended Item would also serve to continue the provisions of existing item 208g, save in respect of molybdenum oxide which is made in Canada and for which provision is made in Recommended Item 28.28 (3). For other uses, in powder or in lumps, calcium molybdate would be in Recommended Item 28.47 (1), vanadium oxides would be in Recommended Item 28.28 (1) and tungsten oxide would be in Recommended Item 28.28 (1) or R-37 (1); when formed into briquettes by the use of a binding material, all three would be in Recommended Item 38.19 (1), if for other uses than in the manufacture of steel.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-9 208k - Crude oxide of cobalt	Free	10	10

This Recommended Item would provide for the crude cobalt oxide excluded from Recommended Item 28.24 under which both the crude and refined are discussed at greater length. Both forms of cobalt oxide are entered under existing item 208k at rates of Free, B.P. and 10 p.c., M.F.N. The Board recommends the continuation of these rates in Recommended Item 28.24 (2) for the refined oxides and in the present Recommended Item for the crude oxide.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-10 208t - Drugs, n.o.p., of a kind not produced in Canada	Free	15	25

This Recommended Item would provide, without change in rates, for those drugs of existing item 208t which are not in the Reference; provision has not been made for them in any other recommended items.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-11 208u - Sulpho-thio-phosphoric (dithio-phosphoric) compounds for use in the process of concentrating ores, metals or minerals	Free	Free	10

This Recommended Item would continue free entry under the British Preferential and Most-Favoured-Nation Tariffs for the goods of existing item 208u with the exception of the xanthates (see Recommended Item 29.31). Many of the latter are now produced in Canada.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-12 210b - Sodium carbonates, natural	10	15	25

This item would make provision for the natural sodium carbonates which are excluded from Recommended Item 28.42.

In the existing tariff item no division is made between the natural and the other forms of the various sodium carbonates; these are entered, at various rates of duty, under existing items 208t, 210b, or 711 as shown in the summary and conclusions relating to Recommended Item 28.42. For several of the sodium carbonates of Recommended Item 28.42 and for all the natural sodium carbonates of this Recommended Item the Board recommends continued rates of 10 p.c., B.P. and 15 p.c., M.F.N.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-13 210d - Natural sodium sulphate	10	15	25

This Recommended Item would make provision for the natural sodium sulphate excluded from Recommended Item 28.38, at the same rates of duty as those recommended for chemical sodium sulphate. At present it is dutiable under existing item 210d at 1/5¢ per pound under both the B.P. and the M.F.N. tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-14 *211 - Bauxite, whether or not washed or calcined	Free	Free	Free

This Recommended Item would make provision for the residual content of existing item *211 after the relocation of alumina in Recommended Item 28.20 and of activated bauxite in Recommended Item 38.03 (1), all without change in rates of duty.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-15 213 - Vinegar	10	15	25

This Recommended Item would include vinegar; vinegar is obtained by the acetic fermentation, in the presence of air, of alcoholic liquids. It includes vinegars, such as are derived from wine, beer, malt, spirit, cider, perry and other fermented fruit vinegars.

In the Brussels Nomenclature the heading for vinegar includes potable aqueous solutions of acetic acid not containing more than 10 per cent by weight of acetic acid. However, to conform with Canadian regulations concerning vinegar the Board has explicitly included such aqueous solutions of acetic acid in Recommended Item 29.14 (2), unless they are vinegar in accordance with Canadian regulations. Vinegar is excluded from the acetic acid of Recommended Item 29.14 (2).

At present vinegar is subject to a complicated set of specific rates depending on its strength. No special representations were made to the Board concerning it. For it the Board recommends the same rates as it is recommending for acetic acid: 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-16 *224 - Sealing wax (including bottle-sealing wax) in sticks, cakes or similar forms	15	22½	25

This Recommended Item would make provision for the sealing wax of item *224 when in the forms described; for the sealing wax in other forms, provision is made in Recommended Item 32.12 (3) as "sealing wax, n.o.p.". Existing item *224 is not in reference 120 and no changes in rates of duty are recommended.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-17 240 - Whiting or whitening; natural calcium sulphate, n.o.p.	Free	10	10

Whiting (Paris white, gilders' whiting) is composed of finely ground naturally occurring calcium carbonate which contains small amounts of impurities; natural satin white is composed of natural calcium sulphate. Recommended Item 28.42 (1) would include precipitated calcium carbonate but would exclude the natural forms; similarly the natural forms of calcium sulphate would be excluded from Recommended Item 28.38 (7).

Recommended Item R-17 would provide, without change in rates, for those natural forms of these substances now admitted under existing item 240.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-18 263b - Diethyl ketone, methyl normal propyl ketone and blends thereof; furfural; all the foregoing for use in the refining of oils	Free	Free	25

This Recommended Item would continue the existing provisions of end-use item 263b for those materials not now produced in Canada. For general use diethyl ketone and methyl normal propyl ketone would be in Recommended Item 29.13, while furfural would be in Recommended Item 29.35, all at recommended rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-19 *295a - Wollastonite; natural zirconium silicate	Free	Free	Free

Wollastonite (natural calcium silicate) is now named in an extract from existing items 208t and 711 at 5 p.c. under the M.F.N. tariff. Natural zirconium silicate qualifies for duty-free entry under existing item *295, not in the Reference.

The chemical forms of these two silicates would be in Recommended Items 28.45(2) and 28.45(4), both free of duty under all tariffs.

Recommended Item R-19 *295a would provide free entry for the natural forms as well.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-20 296b - (1) Magnesite, dead-burned or sintered, n.o.p.; magnesite, caustic calcined, n.o.p.; plastic magnesia; magnesium oxide, n.o.p.	15	15	30
(2) Magnesium carbonate, basic or otherwise, excepting crude rock, n.o.p.	Free	15	25

Recommended Item R-20(1) reproduces the words and rates of existing item *296b(1) which is not in the Reference. However, one form of magnesium oxide may be produced by calcining magnesite or brucite and certain forms of magnesium oxide are now classified in item 208t. In order to remove uncertainty as to the precise content of the items, the Board is recommending that provision be made in Recommended Item 28.18 for magnesium oxide, howsoever produced, not less than 94 per cent pure. Recommended Item R-20(1) would be applicable to magnesium oxides of the lesser degree of purity which is produced in Canada. The problem of nomenclature and the reasons for the Board's recommendation are discussed in greater detail in the Summary and Conclusions of Recommended Item 28.18.

The words "magnesium oxide, n.o.p." were added to this Recommended Item, as it appeared in the Recommended Schedule published in Volume I of this Report, by the corrigenda published in Volume 3, to make it clear that Recommended Item R-20 296b(1) would include magnesium oxide that might not be sufficiently pure to allow its classification in Recommended Item 28.18.

Under the Board's recommendations it also seems possible that Recommended Item R-20(1) might include some of the magnesite which is now eligible for entry under existing item 296e because Recommended Item R-21 would be slightly narrower in scope than is existing item 296e.

Recommended Item R-20(2) would provide for magnesium carbonate, other than the precipitated magnesium carbonate of Recommended Item 28.42(1) for which rates of Free, B.P. and 15 p.c., M.F.N. are also recommended. Subject to free entry under existing end-use item 296e and to rates of Free, B.P. and 20 p.c., M.F.N. under existing end-use item 296c, the magnesium carbonate of this Recommended Item is entered under existing item 296b(2) at rates of 20 p.c. under both

the B.P. and M.F.N. Tariffs. Magnesium carbonate was not the subject of representations at the hearings. For the non-precipitated magnesium carbonate, the Board recommends the same rates as it recommends for the precipitated material: Free, B.P. and 15 p.c., M.F.N.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-21 296e - Magnesium oxide, or calcined magnesite, for use exclusively in the manufacture of electrical cables	Free	Free	Free

This Recommended Item would provide for most of the magnesium oxide now imported under existing item 296e, without change in rates of duty. It is believed that the narrowing of the end-use provisions would have little if any effect, at present, on the amount of imports. Magnesium oxide of the type required for the end-use named in the recommended item is not available from Canadian production.

For general use magnesium oxide, not less than 94 per cent pure, would be entered under Recommended Item 28.18 (2), while magnesium oxide or calcined magnesite of lesser purity would be in Recommended Item R-20.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-22 326d - Beads, drops or other shapes of cellulose acetate, glass or synthetic resins, for use exclusively in the manufacture of imitation pearls	Free	Free	Free

This Recommended Item would provide continued free entry, under both Tariffs, for the goods now classified in existing items 326d and 326q. It is estimated that imports under these items have been small.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-23 326f - Moulded illuminating shades, reflectors and refractors of glass, of a class or kind not made in Canada, designed for use with light fixtures or with portable lamps	Free	15	32½

This Recommended Item would provide without change in rates of duty, for the goods in existing item 326f, not included in reference 120. The remaining goods of item 326f would be classified in Recommended Item 39.07, at a rate of 20 p.c. under both tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-24 *333 - Cinnabar	Free	Free	Free

This Recommended Item would provide for the residual contents of existing item *333 if quicksilver (mercury) and radium are relocated in Recommended Items 28.05 (2) and 28.50, all without change in rates of duty.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-25 *334 - Kryolite or cryolite, n.o.p.	Free	Free	Free

This Recommended Item would provide, without change in rates of duty, for the natural cryolite of existing item *334; the synthetic cryolite would be relocated in Recommended Item 28.29 (6), also free of duty.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-26 476b - Surgical suction apparatus including motive power; operating room lights designed to minimize shadow, not including bulbs; all the foregoing of a class or kind not made in Canada, and complete parts thereof, for the use of any public hospital, under such regulations as the Minister may prescribe	Free	Free	Free

This Recommended Item would reproduce existing item 476b with the sole change of deleting ethylene from its content. Existing item 476b is in reference 120 only insofar as it relates to chemicals or plastics. The Board recommends the deletion of ethylene, the only chemical in the existing item; there was no evidence that it had, in fact, been imported under item 476b in recent years. Under the Board's recommendations ethylene would be eligible for entry free of duty under Recommended Item 29.01(11).

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-27 *584 - Bone pitch, crude only	Free	Free	Free

This Recommended Item would provide continued free entry for the residual contents of existing item *584, which is not in the Reference, should resin or rosin be relocated in Recommended Item 38.08, free of duty, where it is described as rosin and resin acids.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-28 *585 - Coal and burgundy pitch; coal tar, crude, in packages of not less than fifteen gallons	Free	Free	Free

This Recommended Item would provide for the residual contents of existing item *585, not in reference 120, after the relocation of "pine pitch" in Recommended Item 38.10 and of "pine tar, crude, in packages of not less than fifteen gallons" in Recommended Item 38.09 all without change in rates of duty.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-29 590 - Naphtha, high flash	Free	Free	Free

High flash naphtha for use in Canadian manufactures is imported under existing item 590 at 1/3¢ per gallon under the Preferential and the Most-Favoured-Nation Tariffs; this specific rate amounts to about one per cent ad valorem. Imports under tariff item 590 were valued at less than \$100,000 in 1965.

For general use, if derived from petroleum, high flash naphtha would be entered under existing item 269(ii) at the same rate, while if derived from coal tar it would be classified in existing item 711 at rates of 15 p.c., B.P. and 20 p.c., M.F.N.

It is used principally in the production of special paints or finishes and as a thinner or solvent for certain synthetic resins, such as alkyd resins. Production in Canada is small.

The Steel Company of Canada, Limited was the only producer to make representations concerning naphtha and was said to produce only a single grade of the product which does not meet the requirements of all Canadian users. Stelco proposed that the rate be reduced to Free.

The Board recommends free entry of the high flash naphtha without the existing end-use restriction.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-30 658b - Magnetic recording tape, n.o.p., manufactured from synthetic resins or cellulose plastics:			
(1) Unrecorded	5	10	25
(2) Recorded	15	20	25

Most magnetic recording tapes are produced by coating artificial plastic materials with iron oxide, although such tapes of metal or paper or coated with other materials, do exist. Unrecorded sound-recording tapes (other than the belts for dictating or transcribing machines of tariff item *414b) are now entered at rates of 5 p.c., B.P. and 10 p.c., M.F.N. under existing items *595(2) or *595a which would remain unchanged; unrecorded video tape now is entered under existing item 658b at 15 p.c., B.P. and 20 p.c., M.F.N.; unrecorded tapes for computers and other instruments are now classified as manufactures of synthetic resins or of cellulose plastics, at 15 p.c., B.P. and 20 p.c., M.F.N. under tariff items 908 or 915(c); Recommended Item R-30 would provide for all these products at the rates of 5 p.c. and 10 p.c. now applied to unrecorded sound-recording tapes.

Recorded tape of the corresponding kinds is now entered under existing items 658b, 908 or 915c - all at rates of 15 p.c., B.P. and 20 p.c., M.F.N. Recommended Item R-30 (2) provides for these recorded tapes without change in rates of duty.

More detailed information regarding these tapes appears in the Summary and Conclusions of Recommended Item 39.07.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-31 663b - Goods which enter into the cost of manufacture of fertilizers when imported for use exclusively in the manufacture of fertilizers	Free	Free	Free

This Recommended Item would continue the provisions of existing item 663b with the sole change that the first word "articles" is deleted and replaced by the word "goods" to indicate with greater clarity the wide scope intended. Its contents would be broader to the extent that Recommended Item 31.00 is broader than the existing items on fertilizers as explained in the summary and conclusions of that item. The value of imports under existing item 663b in 1965 is estimated at \$40 million dollars, principally from most-favoured-nation countries.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-32 *669 - Corundum, n.o.p., emery and garnet, in bulk, crushed or ground	Free	Free	Free

This Recommended Item would provide for the residual contents of existing item *669, which is not in reference 120, if artificial corundum is relocated in Recommended Item 28.20; the rates of duty would remain unchanged.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-33 *671 - Artificial abrasive grains, other than chemically defined products, crushed or ground	Free	Free	Free

This Recommended Item would provide for the residual contents of existing item *671, not in Reference 120, after the relocation of chemically defined abrasive grains in such recommended items as 28.20, 28.56 (2) and 28.57 (2), all without change in rates of duty.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-34 68ld - Uranium depleted in U 235, in the form of pigs, ingots, billets, or bars; residues result- ing from the processing abroad of uranium metal, salts or oxides	Free	Free	25

This Recommended Item would provide, without change in rates of duty, for the depleted uranium now admitted free of duty under existing item *237a.

In addition it would provide, without change in rates, for residues that are not chemically defined products, resulting from the processing of the enumerated uranium materials, whether or not the material is of Canadian origin; such residues, from material of Canadian origin, are now admitted under existing item 68ld.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-35 791 - Materials of all kinds for use in producing or manufacturing the products of Recommended Item 38.11, when imported exclusively for such use, whether or not otherwise enumer- ated in Schedule A, subject to such regulations as the Minister may prescribe	Free	Free	Free

This Recommended Item would continue the provisions of existing item 791; the content would be expanded to correspond with the products of Recommended Item 38.11. A brief discussion of the active ingredients used in the production of pesticides is to be found in the Summary and Conclusions of Recommended Item 38.11.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-36 Metals, n.o.p., not including alloys, in lumps, powders, ingots or blocks:			
(1) Other than the following	Free	15	25
(2) Cadmium	10	15	25
(3) Cobalt	Free	10	25
(4) Electrolytic manganese for alloying purposes	Free	Free	20

Certain metals when in the form of lumps, powder, ingots or blocks are treated as chemicals in the Canadian Tariff. When in bars, they are regarded as manufactures and are not in the reference nor in this Recommended Item.

Recommended Item R-36 (1) would provide for a number of metals now entered under existing item 208t at Free, B.P. and 15 M.F.N.: antimony (other than that in existing item *330 which would remain unchanged), beryllium, germanium, hafnium, indium, magnesium, manganese (other than that in existing end-use item 347e), molybdenum, niobium, rhenium, tantalum, thorium, titanium (other than that in existing end-use item *347c, which would remain unchanged), vanadium and zirconium (other than that in existing end-use item *347d, which would remain unchanged). For these, the Board recommends continued rates of Free, B.P. and 15 p.c., M.F.N.

When for use in the manufacture of metal filaments for electric lights, any metallic element may be admitted free of duty under existing item 316b which would remain unchanged.

Concerning cadmium, now ruled to be produced in Canada and classified in tariff item 711 at rates of 15 p.c., and 20 p.c., no special representations were made; for it, the Board recommends rates of 10 p.c. and 15 p.c.

Cobalt metal in lumps, powder, ingots and blocks, is entered under an extract from existing item 208t at rates of Free, 10 p.c. and 25 p.c. It is not produced in Canada though cobalt oxide, from which it may be manufactured, is so produced. For cobalt metal in these forms, Recommended Item R-36(3) makes provision, without change in rates. Cobalt bars, now classified in the same extract as it affects existing item 711, at rates of 10 p.c. under both tariffs, would continue to be so classified. Recommended Item R-36(4) would provide free entry under both Tariffs for the electrolytic manganese metal for alloying purposes now entered under existing item 347(e) at rates of Free, B.P. and 5 p.c., M.F.N.

Dominion Magnesium Limited produces magnesium in Canada but exports most of its output to the U.S.A. The company urged that there should be no increase in rates on magnesium or thorium metal. The Board is recommending no change in these rates.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-37 Natural oxides, n.o.p., not including ores of metals:			
(1) Other than the following	Free	10	25
(2) Antimony oxides	Free	12 $\frac{1}{2}$	25
(3) Copper oxides	Free	15	25
(4) Manganese oxides	Free	Free	Free
(5) Molybdenum oxides	10	15	25
(6) Nickelous oxide	10	15	25
(7) Tin oxides	Free	15	25
(8) Zirconium oxide	Free	5	15

Certain crude metallic oxides, when imported to be used as ore, are now, and would remain classified in existing tariff item *329 as ores of metals unless more specific provision is made. Certain oxides, in other forms, are now classified, without distinction between the natural and the chemically-produced. In the Brussels Nomenclature, in general, the natural forms are excluded from the headings that provide for the chemical forms. It is part of the Board's recommendation that, unless otherwise indicated, the contents of the four-digit recommended items should conform, in this respect, with the corresponding Brussels headings.

Recommended Item R-37 is intended to provide for metallic oxides in those forms which would not fall within the scope of the other recommended items nor of existing tariff items not recommended for deletion. Paragraph (1) of Recommended Item R-37 would include those natural oxides which were not brought to the Board's attention as well as any natural tungsten oxides other than the imports for use in the manufacture of steel for which provision would be made in Recommended Item R-8. The rates recommended for the natural oxides of paragraphs (2) to (8) of Recommended Item R-37 are those recommended for the corresponding chemical oxides. These natural oxides are discussed in the appropriate Summary and Conclusions together with the corresponding chemical oxides: manganese oxides, in Recommended Item 28.22; tin oxides, in Recommended Item 28.26; antimony oxides, copper oxides, molybdenum oxides, nickelous oxide and zirconium oxides, in Recommended Item 28.28.

Recommended Item R-37 would not include oxides imported as ores for the production of metal, nor the chemically produced oxides of the four-digit recommended items, nor would it attract goods from Recommended Items R-8, R-20, R-21, R-32, R-33 or R-38, nor from end-use items remaining in the Customs Tariff.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-38 Calcined witherite	Free	15	25

This Recommended Item would provide for calcined witherite, a crude barium oxide, at the rates recommended for chemical barium oxide in Recommended Item 28.18(1); calcined witherite is now classified in existing item 208t at rates of Free, B.P. and 15 p.c., M.F.N. unless it is for use as a colouring material when it is entered under existing item 246 at rates of 12 $\frac{1}{2}$, B.P. and 17 $\frac{1}{2}$ M.F.N.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-39 Synthetic wax; waxes containing synthetic wax;			
(1) Other than the following	15	15	25
(2) Polyethylene of a weight-average molecular weight not exceeding 5000	Free	Free	10

Recommended Item R-39(1) would provide, without change in rates of duty, for synthetic waxes now classified in an extract from existing item 711 at rates of 15 p.c. under both Tariffs, as well as for certain waxes containing synthetic wax now classified under existing item 904 as synthetic resin compositions, n.o.p., also at rates of 15 p.c. under both Tariffs. It would also attract certain other synthetic waxes or wax mixtures now dutiable under existing item 711 or 220a(i) at rates of 15 p.c., B.P. and 20 p.c., M.F.N.

Recommended Item R-39(2) would provide free entry for certain polyethylenes of low molecular weight now entered under existing item 901(a)8 at rates of $7\frac{1}{2}$ p.c. under both the B.P. and the Most-Favoured-Nation Tariffs.

Free entry was proposed for certain other waxes said not to be made in Canada. These include montanic acid ester waxes, oxidized microcrystalline waxes and Fischer-Tropsch waxes. The Board has not before it sufficient evidence to recommend statutory free entry for these waxes.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-40 Hexamethylenetetramine or metaldehyde put up in tablets, sticks or similar forms for use as fuels:			
(1) Hexamethylenetetramine	10	15	25
(2) Metaldehyde	Free	15	25

Recommended Item R-40(1) would provide for hexamethylenetetramine in forms not included in Recommended Item 29.26(3) and at the same rates of duty.

Recommended Item R-40(2) would provide for forms of metaldehyde not included in Recommended Item 29.11(1).

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-40A Crude naphthalene	Free	Free	10

Recommended Item R-40A was introduced into the Recommended Schedule by the corrigenda published in Volume 3 of the Report; it

would provide for crude naphthalene which is now regarded as a chemical of a kind not produced in Canada and which, being crude, would not qualify for entry under Recommended Item 29.01. Crude naphthalene is now imported, for the most part free of duty, under end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35) for pesticidal use, and under item 921 for use in the manufacture of plastics; for non-specified uses, it is subject to rates of Free, B.P. and 15 p.c., M.F.N. under item 208t. This Recommended Item would provide for crude naphthalene the free entry now accorded the greater part of the imports.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
R-4OB Lubricant molybdenite powder	Free	15	25

Recommended Item R-4OB was introduced into the Recommended Schedule by the corrigenda published in Volume 3 of the Report, to provide for certain forms of molybdenite, a naturally occurring molybdenum sulphide. Molybdenite when used as an ore of metal would continue to be classified in item 329. However, when the mineral concentrate is relatively pure it may be powdered and used as a lubricant; in such form, except for end-use item 220e, it is now entered under item 208t at Free, B.P. and 15 p.c., M.F.N. Since it is produced by mineral processes it would not be classified in Recommended Item 28.35 as a chemical sulphide. Recommended Item R-4OB would provide for the lubricant molybdenite powder without change in rates or preference established for general use.

Note

The Summary and Conclusions for Recommended Item R-41 are contained in the antepenultimate paragraph of the Summary and Conclusions of Recommended Items R-2 and R-3.

The Summary and Conclusions for Recommended Items R-42 and R-43 are set out following those of Recommended Item 39.07.

Recommended ItemB.P. M.F.N. G.T.

15.10 Industrial mixtures, including
 reaction blends, of fatty acids
 not containing 90 per cent or
 more by weight of any one acid;
 acid oils from refining, n.o.p.;
 industrial mixtures, including
 reaction blends, of fatty alcohols
 not containing 90 per cent or more
 by weight of any one alcohol

(1) Acid oils	Free	10	25
(2) Fatty acids except tall oil fatty acids	10	15	25
(3) Fatty alcohols	Free	Free	Free
(4) Tall oil fatty acids	Free	Free	Free

The products of this Recommended Item are discussed in the Volume of the Report dealing with Brussels headings 29.04, 29.05, 29.14 and 29.16.

The fatty acids of this Recommended Item are either crude fatty acids or mixtures or blends of fatty acids obtained by the saponification of fats and oils or by other processes; they include, among others, lauric acid, linoleic acid, linolenic acid, oleic acid, palmitic acid and stearic acid; when these acids appear as chemically defined acids they would be classified in Recommended Item 29.14. 12-Hydroxystearic acid, crude or in mixtures, would be classified in this Recommended Item and, as a chemically defined acid, it would be classified in Recommended Item 29.16.

To establish a clear distinguishing criterion between the industrial fatty acids of this Recommended Item and the other fatty acids, the Board is recommending a modification of the language of Brussels heading 15.10 so that Recommended Item 15.10 would apply to "industrial mixtures, including reaction blends, of fatty acids not containing 90 per cent or more by weight of any one acid."

Tall oil fatty acids raise a slightly different problem of classification. Tall oil is an oily mixture of fatty acids (mainly oleic, linoleic and linolenic), resin acids (mainly abietic) and other materials obtained by acid treatment of the liquor left over from the manufacture of wood pulp. Tall oil would be classified in Recommended Item 38.05; when the tall oil fatty acids are separated from most of the resin acids they would be classified in Recommended Item 15.10.

The market for industrial fatty acids is estimated to exceed 30 million pounds with a commercial value of over \$4 million.

Most of the industrial fatty acids, such as those derived from coconut, corn, cottonseed, linseed, palm or soyabean oils, are ruled to be of a kind produced in Canada and consequently subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c.; stearic acid is entered generally under item 215 at rates of Free and 12½ p.c. and under the end-use provisions of item 215a free of duty for candle and crayon makers; for those of a kind not produced in Canada and not otherwise provided for, entry would be under tariff item 216 at rates of Free and 15 p.c.; several are admissible at lower rates under the

end-use provisions of tariff items not within this Reference, but upon which the Board has made recommendations in Reference 131, such as *276b(3), *276c(2), *276d(2), *276e(1) and *276f(4) and under the end-use provisions of tariff items 262, 270, 851 (all three of which would remain unchanged) and 921.

Because most industrial fatty acids are produced in Canada and because they are usually varying mixtures of fatty acids, the Board, with the exception of tall oil fatty acids, is recommending rates of 10 p.c. and 15 p.c. for those which would be classified in this Recommended Item. For the tall oil fatty acids of this Recommended Item, now entered free of duty under tariff item 585a, the Board recommends continuation of duty-free entry under all Tariffs.

The acid oils of this Recommended Item are vegetable oils with a relatively high free acid content obtained from acidulated soapstock during the refining of crude oils. In Recommended Item XIII of its Report on Reference 131 - Oil Seeds, Vegetable Oils and Related Products - the Board made certain recommendations concerning acid oils of vegetable origin with a free fatty acid content of less than 90 per cent by weight; to give further effect to these recommendations, the Board, in this Recommended Item, is making provision for the acid oils with a free fatty acid content of not less than 90 per cent by weight - products more closely related to the chemical industry than to the vegetable oil refining industry. For greater clarity, because of its introduction for the fatty acids in Reference 131, the Board is introducing the corresponding fatty acid content criterion into the Recommended Item.

The acid oils under consideration are now subject to entry at rates of 15 p.c. and 20 p.c. under tariff item 711. For these acid oils, which were not the subject of any detailed representations, the Board recommends rates of Free and 10 p.c.

The fatty alcohols of this Recommended Item are crude fatty alcohols, or mixtures or blends of acyclic alcohols obtained by catalytic reduction of the mixed fatty acids of the item or of their esters; they include: cetyl alcohol, lauryl alcohol, myristic alcohol, oleyl alcohol, stearyl alcohol and mixtures of primary aliphatic alcohols; when these alcohols appear as chemically defined alcohols they would be classified in Recommended Item 29.04.

As for the fatty acids, in order to establish a clear distinguishing criterion between the fatty alcohols of this Recommended Item and those of Recommended Item 29.04, the Board is recommending a modification of the language of Brussels heading 15.10 similar to that which was recommended for fatty acids so as to include only "industrial mixtures, including reaction blends, of fatty alcohols not containing 90 per cent or more by weight of any one alcohol."

Fatty alcohols are used in the manufacture of detergents and are particularly useful where biodegradability is sought; they are not made in Canada and are imported chiefly from the United States, in smaller quantities from West Germany and Britain. For the manufacture of synthetic detergents free entry under temporary tariff item 865 has replaced the former duty under an Extract from tariff item 711; the mixtures, when not subject to end-use item 865, would be subject to

entry at rates of 15 p.c., and 20 p.c. under tariff item 220a(i) or 711. The small quantities of individual fatty acids, often classifiable in Recommended Item 29.04, when not subject to end-use item 865, are entered under tariff item 208t at Free and 15 p.c.; these are mostly from the United States. Oleyl alcohol and stearyl alcohol may also be entered free of duty under tariff item 921.

The very great preponderance of imports are now entered free of duty under the end-use provision of tariff item 865. The Board is recommending free entry for the fatty alcohols without end-use qualification.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
15.11 Glycerol and glycerol lyes:			
(1) Other than the following	Free	Free	Free
(2) Glycerol, other than crude	10	15	25

The products of this Recommended Item are discussed in the Volume of the Report dealing with Brussels headings 29.04 and 29.05.

Crude glycerin (crude glycerol) is made in Canada from fats; the refined product, other than A.R. grade, is also made in Canada from domestic and imported crude glycerin; glycerin is made from propylene in the United States but not in Canada. The crude glycerin production in Canada is insufficient to meet the needs of the market; over 90 per cent of the domestically manufactured crude is used cap-tively for refining. Canadian productive capacity for refined glycerin is about 20 million pounds whereas the market was represented to be 14 million pounds though in 1962 the total requirement was only 12 million pounds valued at some \$3.1 million.

In 1962 imports supplied about 40 per cent of the market for crude glycerin but only about 10 per cent of the market for refined glycerin. Prices for both glycerins are somewhat higher in Canada than in the United States.

Glycerin is now entered under a variety of tariff items at a variety of rates: crude glycerin, generally under tariff item 711 at rates of 15 p.c. and 20 p.c., or for the manufacture of refined glycerin under tariff item 664(1) free of duty, glycerin for the manufacture of explosives under tariff item 664(2) free of duty, refined glycerin of A.R. grade under tariff item 208t at rates of Free and 15 p.c. and refined glycerin other than A.R. grade under tariff item 711 at rates of 15 p.c. and 20 p.c.

For crude glycerin, both producer and refiner urged free entry. For refined glycerin, continuation of the rates of 15 p.c. and 20 p.c., was urged. The domestic producers now have 90 per cent of the market for the refined glycerin. A little over one third of the imports is used in Alberta for the production of explosives; the sole producer of explosives in Alberta appeared to view with equanimity the plea for deletion of the free entry for explosives manufacture in

tariff item 664(2). There is no indication to establish the specific suitability of rates of 15 p.c. and 20 p.c. For glycerol, other than crude, the Board recommends rates of 10 p.c. and 15 p.c.

The glycerol lyes of heading 15.11 were not the subject of representations before the Board; they appear to be residues from the preparation of fatty acids and soaps and to be used in the production of glycerin. They are now subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. For them the Board recommends, as for crude glycerin, free entry under all Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
25.01 Common salt (including rock salt, sea salt and table salt); pure sodium chloride; salt liquors; sea water:			
(1) other than the following			
per 100 pounds	Free	3¢	5¢
(2) Salt for the use of the sea or gulf fisheries	Free	Free	Free
(3) Table salt made by an admixture of other ingredients, when containing not less than ninety per cent of pure salt	5	10	15
(4) Salt liquors and sea water per 100 pounds of contained salt	Free	3¢	5¢

In 1964, Canadian production of salt amounted to almost 4 million tons valued at more than \$23 million, consumption was nearly 3.2 million tons valued at approximately \$21.4 million, imports were 400,000 tons valued at \$1.9 million and exports were 1.1 million tons valued at \$3.6 million.

The value of salt varies widely from about \$21 per ton for fine vacuum salt to as little as about \$1.30 per ton for salt in brines; in 1964, the average value of salt produced in Canada was \$5.93 per ton.

The uses of salt are varied; the two most important in Canada are the production of chemicals, particularly chlorine and caustic soda, and snow and ice control on roadways.

Because salt is a product with a low unit value, transportation costs are an important part of laid-down cost; on domestic shipments these can go as high as \$18.00 per ton from Prairie plants to destinations in British Columbia, where Mexican salt can be laid down at a cost of \$10.00 per ton: \$2.00 for the salt and \$8.00 for freight; there is no salt production in British Columbia.

Subject to the end-use provisions of tariff items 208x, *663f both of which would remain unchanged, 791 (Recommended Item R-35) and 851, which would remain unchanged, salt is now entered under various tariff items: (1) under tariff item *40, for sea or gulf fishery use, free of duty, (2) under tariff item 41, when in bags, barrels or other coverings, at Free, B.P., and $3\frac{1}{2}$ cents per hundred pounds, M.F.N., (3) under tariff item 42, when in bulk, at Free, B.P., and 3 cents per hundred pounds, M.F.N., and (4) under tariff item *42a, for special table salt, at rates of 5 p.c. and 10 p.c. Certain specially prepared salt is also entered under tariff item 220a(i) at rates of 15 p.c. & 20 p.c.

Tariff items *40, *42a and *663f are not within the terms of this Reference.

The representations made to the Board by various interests were all either for continuation of the present tariff status or against any increase in rates. The circumstances outlined in more detail under heading 25.01 lead to the conclusion that the present rates are generally suited to the needs of the moment.

With a minor variation in the existing rates, the Board, for uniformity of nomenclature, is recommending the adoption of a tariff item based on heading 25.01 of the Brussels Nomenclature which will encompass the coverage of existing items *40, 41, 42 and *42a; in the Recommended Item the Board has added a new provision for salt liquors and sea water at the rates now prevailing for salt in bulk; it has also, for simplicity, combined the salt in bags, barrels and other coverings of tariff item 41 with the salt in bulk of tariff item 42 at the rate of 3 cents per hundred pounds now in force under tariff item 42; this recommendation involves a reduction in rate of $\frac{1}{2}$ cent - from $3\frac{1}{2}$ cents to 3 cents - on the salt in bags, barrels and other coverings. The average value of the packaged salt imports is relatively high: about \$20.00 per ton; consequently, the ad valorem equivalent of the specific duty of $3\frac{1}{2}$ cents per hundred weight has been about 3.5 p.c.; the proposed reduction would reduce the ad valorem equivalent to 3 p.c. No good purpose appears to be served by preserving the distinction in rates between packaged salt and the salt in bulk.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
25.03 Sulphur of all kinds, other than sublimed sulphur, precipitated sulphur and colloidal sulphur	Free	Free	Free

Elemental sulphur enters commerce in many forms: as crude mineral sulphur, whether or not concentrated by mechanical processes; as unrefined sulphur, obtained by the roasting or treatment of pyrites or other sulphurous minerals or recovered as a by-product in the purification of gases; as refined sulphur obtained by rapid distillation, crushed or in sticks or cakes; as triturated sulphur obtained by grinding or sieving either impure or refined sulphur. It is also processed and marketed as sublimed sulphur, as precipitated sulphur and as colloidal sulphur.

Recommended Item 25.03 provides generally for elemental sulphur of all kinds except sublimed sulphur, precipitated sulphur and colloidal sulphur which are named in Recommended Item 28.02 and considered under that heading. However, sulphur put up in forms or packages for sale by retail as disinfectants, insecticides, etc. is in Recommended Item 38.11.

Elemental sulphur is used in large amounts by the pulp and paper industry to produce sulphur dioxide and by the chemical industry to produce sulphuric acid and certain other chemicals; it is used in relatively small amounts in the production of rubber goods and in a few minor applications. In its more important uses it competes in some degree with sulphur dioxide and sulphuric acid produced by other methods.

In Canada most of the sulphur produced as such is extracted from natural gas in order to remove from the gas the corrosive and poisonous hydrogen sulphide; it is also recovered, though in smaller quantities, from nickel-copper matte at Port Colborne, Ontario, and from petroleum refining operations at Montreal, Quebec, and at St. John, New Brunswick. Canadian productive capacity of plants recovering sulphur from natural gas was over 2.1 million tons in 1963 and it is expected to be in the neighbourhood of 3.0 million tons before 1970. The volume of production depends primarily on that of the sales of natural gas and not on the market for sulphur. In 1963, shipments were 1.2 million tons valued at \$12.2 million. Production and sales increased in 1964. More than two-thirds of the production are exported. In 1964, Canadian consumption was 575,000 tons and imports, 150,000 tons.

It is apparent that in the marketing of sulphur, freight costs have an important effect. Sulphur is produced mainly in Alberta whence it is exported in large volume, principally to the United States; the principal Canadian market is Central Canada where it is imported in large volume, chiefly from regions near the Gulf of Mexico, to supplement the meagre local supplies. In 1961, for example, in the area east of Manitoba imports represented more than 85 per cent of consumption, while west of Ontario, they were less than 15 per cent.

Elemental sulphur is now imported into Canada free of duty under tariff item 208 which provides eo nomine, among other chemicals, for "Sulphur and brimstone, crude or in roll or flour".

Because of the circumstances of Canadian production, the domestic supply will increase without relation to domestic demand; as a consequence Canada will depend greatly on world markets whether or not the domestic market is protected by customs duties.

Because of the need to maintain and expand export markets, the producers urged free entry so as not to jeopardize their position abroad by retaliatory action; the consumers also sought continuation of the existing free entry.

In these circumstances the Board recommends continued free entry under all three Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
25.09 Earth colours, whether or not calcined or mixed together; natural micaceous iron oxides	Free	7½	20

Because of their close relation to colouring matter, the Summary and Conclusions on this Recommended Item are located between those on Recommended Item 32.07 and those on Recommended Item 32.08.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.01 Halogens (fluorine, chlorine, bromine and iodine):			
(1) Other than the following	Free	Free	Free
(2) Chlorine	10	15	25
(3) Fluorine	Free	15	25
(4) Iodine, other than crude	10	15	25

Bromine is not produced in Canada, does not compete with other chemicals and is imported only in small quantities: 39,000 pounds valued at about \$15,000 were imported in 1963, the latest year for which data are available.

Fluorine appears not to be made in Canada; the Canadian market for it is negligible being supplied by imports valued at less than \$1,000 per year; it is not competitively substitutable for any other chemicals.

Crude iodine is not produced in Canada, though one company in this country produces sublimed iodine from imported crude; the imports, almost entirely of crude, are largely from Japan. The average Canadian consumption of crude iodine is about 200,000 pounds per annum; that for the sublimed iodine is difficult to ascertain; a qualified witness estimated the bulk of domestic consumption of the latter to be supplied from domestic production. The price of sublimed iodine, in recent years, has been about twice that of crude iodine.

At present, subject to any end-use provision, the rates under the British Preferential and Most-Favoured-Nation Tariffs are Free and 15 p.c. under item 208t for fluorine, Free and Free under item 208 for bromine and crude iodine, 15 p.c. and 20 p.c. under item 711 for sublimed iodine.

Considering the circumstances of these products, the general maintenance of preferential margins and the avoidance of marked fluctuations in rates, the Board recommends free entry under the British Preferential Tariff and the Most-Favoured-Nation Tariff for bromine and crude iodine, rates of Free and 15 p.c. on fluorine, and rates of 10 p.c. and 15 p.c. on iodine other than crude.

Chlorine, the other element of this heading, is one of the more important chemicals in commercial use; for this reason and because of its early position in the proposed nomenclature, it is treated in considerable detail. Caustic soda (sodium hydroxide), an equally important commercial chemical, is a joint product from the process of manufacture of chlorine and, commercially, is therefore intimately linked with chlorine; for this reason the two products have been treated together under Recommended Item 28.01 even though caustic soda properly belongs in Recommended Item 28.17.

In 1964, Canadian production of chlorine was 485,000 tons with a value of over \$31 million; the commercial market was 292,000 tons valued at about \$19 million, the exports, about 18,000 tons valued at some \$863,000 and the imports, about 43,000 tons with a value of about \$2.6 million. Approximately 43 per cent of the Canadian demand is satisfied by captive production. The domestic disappearance, in 1964, was 510,000 tons. Over the years United States prices for chlorine have been 5 to 10 per cent lower than Canadian prices.

Geographically over 90 per cent of the consumption of chlorine is in Ontario, Quebec and British Columbia; although only about 23 per cent of the consumption takes place in British Columbia, more than 40 per cent of the sales take place there and nearly all the imports are for use in that province.

The important users of chlorine - to the extent of about 98 per cent - are the pulp and paper industry and the chemical industry. Because of its low value per unit of weight, transportation costs assume great importance in the competition for markets; indeed these costs may be more important than tariffs in determining the pattern of exports, imports and domestic production; for example they prevent the sale in British Columbia of chlorine produced in Central and Eastern Canada.

Productive capacity and consumption are in relatively close balance compared to many other chemical products and prices seem reasonably stable.

In 1964, imports represented about 8.5 per cent of the total domestic disappearance and about 15 per cent of the merchant sales. Exports represented about 3.7 per cent of domestic production. All foreign trade was with the United States of America.

Five producers of chlorine sought a continuation of the British preferential rate of 15 p.c. and of the most-favoured-nation rate of 20 p.c. now in force under tariff item 711. The Canadian Pulp and Paper Association sought free entry under both Tariffs and Consolidated Mining and Smelting Company of Canada Limited opposed an increase.

In support of the proposed rates of 15 p.c. and 20 p.c., the argument of lower costs of manufacture in the United States because of scale of operation was advanced. The producers themselves concede that for chlorine the economies of scale are less pronounced than in some other sectors of the chemical industry. In the United States, there are plants competing in their own market areas which are no larger than the plants in Canada. A few years ago, Consolidated Mining and Smelting Company of Canada Limited opened a plant in Canada with an annual capacity of only 7300 tons; this venture has involved an expenditure of \$2.6 million in anticipation, doubtless, of a reasonable profit. In the field of chlorine, because of freight charges, location of productive facilities is more important than scale of production; on this score the advantage lies with Canadian producers. No direct evidence was given to support the particular rates advocated.

The interests opposing the rate proposal were apprehensive of its effect on their costs.

While exports and imports are small as compared with domestic production and consumption, such international trade as has occurred appears to have conferred special advantages on Canada both east and west of the Lakehead. To the west, imports have permitted users of chlorine to obtain necessary supplies because shipment of chlorine from Central Canada to British Columbia is uneconomic and local productive capacity has been inadequate. To the east, international trade has been specially advantageous but in a different way: several producing companies, though by no means all, export varying proportions of the chlorine necessarily produced in fixed ratio with their caustic soda. In total these exports have been growing; they have helped to enable producers in Central Canada to supply nearly the whole of the local demand for caustic soda by providing a market for their surplus chlorine. The duties imposed by the United States are lower than those proposed by the five producers.

Basically the need for the proposed rates does not appear to be great. Imports are not large; because of plant locations and freight costs they do not appear to constitute an imminent threat; chlorine is a material of very considerable importance to industry; a measure of protection at rates lower than those now prevailing appears justifiable and the Board recommends rates of 10 p.c. and 15 p.c. for this product.

To avoid change in the margin of preference, rates of Free and 15 p.c. are recommended for fluorine instead of free entry under both Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.02 Sulphur, sublimed or precipitated; colloidal sulphur	Free	Free	Free

In its Summary and Conclusions under Recommended Item 25.03 the Board dealt with the different types of sulphur on the market; it outlined the difference in the coverage of Recommended Item 25.03 and that of Recommended Item 28.02.

The three types of sulphur described in Recommended Item 28.02 are used principally in the manufacture of rubber, pharmaceuticals, fungicides, pesticides and laboratory reagents; as far as is known, little if any of these refined forms of sulphur is produced in Canada. Imports, all from the United States of America, were valued at \$230,000 in 1963; they were entered either at 15 p.c. under tariff item 208t as chemicals or at 20 p.c. under tariff item 220a(i) as chemical preparations when treated with oil. Apparently, some refined sulphur (flowers of sulphur) may be entered under tariff item 208, duty-free under all tariffs.

Under the Brussels Tariff Nomenclature, the addition of oil or other substance to the sulphur only to preserve or to facilitate handling and shipment would not remove the product from 28.02; however, were the addition to confer special properties on the product, it would be classified in heading 38.19 as a special preparation. Colloidal dispersions of sulphur remain in this heading even when they contain a protective colloid designed to prolong the life of the dispersion.

There is no Canadian production of these products; no need for tariff protection was urged or shown; the only plea before the Board was for free entry under all three Tariffs.

Although imports would now qualify for preferential treatment if they originated in a country entitled to British preferential rates, there is no record of such imports and no indication of their probability in the foreseeable future. The apparent reduction in preference under the Board's recommendation is, therefore, purely nominal.

The Board recommends free entry for the three products as it has for all other forms of elemental sulphur under Recommended Item 25.03; to preserve the Brussels Nomenclature for ease of reference, it is not including these three products in its Recommended Item 25.03.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.03 Carbon, n.o.p., including carbon black, anthracene black, acetylene black and lamp black	Free	Free	Free

Of the carbons specifically mentioned in this Recommended Item, acetylene black and carbon black are produced in substantial quantities in Canada; anthracene black is not made in Canada and has no commercial importance in this country; lamp black is not made in Canada and is imported only in small quantities: in 1963, some 203,000 pounds, valued at \$38,000, entirely from the United States.

Acetylene black is used in making dry batteries and is also used to impart electrical conductivity in plastics, rubber and other materials. For many years Shawinigan Chemicals Limited was the sole producer in North America; in 1964, a second North American plant was established in the United States of America. From 1957 to 1962, figures published by the United States Department of Commerce show annual imports into the U.S.A. from Canada in the neighbourhood of 7 million pounds. Some 97 per cent of the Canadian production has been exported to the United States and Britain.

Carbon black is produced in Canada by two companies with a total capacity, between them, of over 200 million pounds. Though they produce a number of grades there are some grades required by industry which are not produced in Canada. In 1964, the domestic market for carbon black was in excess of 100 million pounds. The biggest consumer is the rubber industry where it is used as a reinforcing agent

in tire manufacture; it is also used as a pigment in many products. Competition from manufacture in the United States is quite markedly limited by freight costs which offset any differences in price. In 1964, imports were 24 million pounds valued at \$2.1 million; a large part of these imports was represented to the Board to be of types not made in Canada. Exports are not significant.

All four specifically named products are now entered Free under all Tariffs under tariff item 239. Some concern was voiced about potential competition from Iron Curtain countries.

The Board is recommending a tariff item closely resembling heading 28.03 of the Brussels Nomenclature; however, to avoid conflict with existing items in the Tariff relating to plumbago or graphite and certain other forms of carbon, the Board is recommending the addition of the phrase "n.o.p." after the word carbon.

The Board is recommending a continuation of free entry under all Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.04 Hydrogen, rare gases and other non-metals:			
(1) Other than the following	10	15	25
(2) Arsenic	Free	15	25
(3) Boron	Free	15	25
(4) Helium	5	10	15
(5) Krypton	Free	15	25
(6) Neon	Free	15	25
(7) Phosphorus	Free	15	25
(8) Selenium	5	10	15
(9) Tellurium	5	10	15
(10) Xenon	Free	15	25

Under the title "Hydrogen, Rare Gases and Other Non-Metals - B.T.N. 28.04; Carbon Dioxide, Carbon Monoxide and Nitrous Oxide - B.T.N. 28.13", the Report deals with the gases properly belonging in Recommended Item 28.04; argon, helium, hydrogen, krypton, neon, nitrogen, oxygen, and xenon and three gases classified in Recommended Item 28.13: carbon dioxide, carbon monoxide and nitrous oxide. Of these inorganic gases, the six of greater commercial importance in Canada are oxygen, carbon dioxide, argon, nitrogen, nitrous oxide and hydrogen.

The present Summary and Conclusions deal only with the gases belonging in Recommended Item 28.04 and the other products belonging in that Recommended Item. The Summary and Conclusions relating to Recommended Item 28.13 deal with the three other gases and the other products belonging in that Recommended Item.

Argon is made by three producers. In 1964, sales by the Canadian producers were of the order of \$3 million. Imports have increased in recent years and they are estimated to be close to 10% of total sales. Exports are of small importance.

Hydrogen is produced in Canada principally for captive use; only a very small part of the production is sold. It is mostly used in the production of ammonia and is manufactured mainly from natural gas or other hydrocarbons. The commercial sales in 1962 were valued at approximately \$575,000; imports are negligible and there is no record of exports.

Most nitrogen produced in Canada is for captive use in the production of ammonia, which is, in turn, largely used in the production of nitrogenous fertilizers; the captive production for the fertilizer industry in the crop year of 1963-64 was about 360,000 tons. In 1964, merchant sales reached approximately 10,000 tons valued at about \$2.5 million. Exports and imports are negligible.

Oxygen in 1962 was produced in about 43 plants if on-site production is included; on-site production represents about 90 per cent of the total consumption. Imports and exports are unimportant in volume and value. The relative cost of shipping and the cost of conversion and distribution facilities are major competitive factors. Canadian on-site production has, in effect, a captive market and, for the remaining 10 per cent, Canadian plants enjoy an advantage of location.

For these four gases: argon, hydrogen, nitrogen and oxygen, the Board is recommending rates of 10 p.c. under the British Preferential Tariff and 15 p.c. under the Most-Favoured-Nation Tariff in lieu of the existing rates of 15 p.c. and 20 p.c. now in effect under tariff item 711. None of these gases appears to be produced or marketed in circumstances which require the full measure of the protection now afforded.

Helium was not produced in Canada until 1963; since then it has been produced in Saskatchewan with a capacity indicated at the time to be 12 million cubic feet per year. Until 1963, the United States of America was the only non-communist source of this gas. The Canadian demand is not large enough to absorb the domestic production and the producer has announced that 75 per cent of its output will be exported. Liquefied helium is classified in tariff item 208t, at Free and 15 p.c. and gaseous helium, in tariff item 711, at 15 p.c. and 20 p.c. The Board is recommending rates of 5 p.c. and 10 p.c. under the British Preferential Tariff and the Most-Favoured-Nation Tariff.

Krypton, neon and xenon are not made in Canada nor likely to be. For them, the Board recommends continued entry at Free, B.P., and 15 p.c., M.F.N., the rates now in force under tariff item 208t.

In addition to the gases, Recommended Item 28.04 includes arsenic, boron, phosphorous, selenium, silicon and tellurium.

Arsenic and boron appear to have no commercial significance and no representations on either were received by the Board. They are

now entered under tariff item 208t: Free, British Preferential, and 15 p.c., Most-Favoured-Nation. The Board recommends continuation of these rates.

Phosphorus is produced in Canada only by Electric Reduction Company of Canada Limited. About 95 per cent of the company's production is used in its own plants to make phosphoric acid and phosphorus compounds. Exports, important to the producer, are made to Great Britain and India and at times to China and the United States of America. Imports are not important. At present phosphorus is entered Free under the British Preferential Tariff and at 20 p.c. under the Most-Favoured-Nation Tariff in tariff item 208p. Though some plants in the United States of America may generally have certain advantages in cost of production their distance from the Canadian market is such that the advantages would have to be very large indeed to compensate the disadvantage of their location. The sole Canadian producer is also the sole producer of phosphoric acid and certain phosphorus compounds; it viewed the existing rate of 20 p.c. principally as a deterrent to the importation of phosphorus from the United States for conversion to the acid or compounds. In the presence of a single producer, with competitive advantages arising from location, the Board is recommending a reduction in the most-favoured-nation rate from 20 to 15 p.c. and the maintenance of the free entry under the British Preferential Tariff.

Silicon is produced in Canada by only one company: the Metals & Carbon Division of Union Carbide Canada Limited. The Canadian consumption of silicon is increasing steadily; the producer, to keep abreast of domestic requirements, has likewise been increasing its productive capacity from time to time; imports have declined when domestic capacity has been increased. About 75 per cent of Canadian consumption is for products which are exported; freight and the existing duty of 15 p.c. and 20 p.c. under tariff item 711 combine to give what was termed a small advantage to domestic production. There is only one producer, imports appear to be on the decline, 75 per cent of the imports could be subject to export drawback and there is still an advantage in favour of domestic production; for these reasons the Board is recommending a reduction in rates from 15 p.c. and 20 p.c. to 10 p.c. and 15 p.c.

Selenium and tellurium are each produced in Canada by the same two producers. About 90 per cent of our production of selenium is exported, mostly to Britain and the United States of America; there is some decline in domestic consumption because of the substitution of silicon and germanium in some uses. Canada is the second largest producer of tellurium in the non-communist world; over 90 per cent of our output is exported. Imports of both selenium and tellurium are negligible. Both are now entered under tariff item 711 at 15 p.c., British Preferential, and 20 p.c., Most-Favoured-Nation; there does not appear to be any reason to continue these rates and the Board is recommending their reduction to 5 p.c. and 10 p.c.

The rates for arsenic, boron, krypton, neon and xenon have been recommended, instead of free entry under both tariffs, for the purpose of avoiding change in the margin of preference.

Recommended ItemB.P. M.F.N. G.T.

28.05 Alkali, alkaline-earth and rare
earth metals; yttrium and
scandium; mercury:

(1) Other than the following	Free	15	25
(2) Mercury	Free	Free	Free
(3) Sodium	Free	Free	Free

Barium, caesium, cerium, dysprosium, erbium, europium, gadolinium, holmium, lanthanum, lithium, lutetium, neodymium, potassium, praseodymium, rubidium, samarium, scandium, strontium, terbium, thulium, ytterbium and yttrium are all entered under tariff item 208t, as chemicals not produced in Canada, at rates of Free, B.P., and 15 p.c., M.F.N. The Board recommends continuation of these rates.

Calcium is produced in Canada and almost entirely exported. Production fluctuates: 159,000 pounds in 1964, 99,000 pounds in 1963, 123,000 pounds in 1962, 221,000 pounds in 1957 and 395,000 pounds in 1956. The Canadian demand is only a few hundred pounds per year. Canadian exports to the United States are subject to a customs duty of 15.5 p.c. The existing rates of duty in Canada are Free under the British Preferential Tariff and 15 p.c. under the Most-Favoured-Nation Tariff under item 208t. The Canadian producer has not sought the additional protection of 15 p.c. and 20 p.c. under tariff item 711 which could have been obtained by requesting a ruling that calcium was made in Canada. Indeed the producer sought no change in rates unless the revision were downward as a result of reductions in duties on calcium metal, thorium metal and magnesium metal entering the United States. The Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Mercury, covered by paragraph (2) of the Recommended Item, now named in tariff item *333, is not within the Board's terms of reference. To preserve uniformity of nomenclature the Board recommends that mercury be relocated in the Recommended Item without change in the rates of duty.

Metallic sodium is not made in Canada; it is used, to the extent of about 10 million pounds per year, as an intermediate in the production of tetraethyl lead; at least 95 per cent of the imports are entered free of duty under tariff item 263d for this use. One company uses it in the manufacture of sodium azide; such imports may now be entered under tariff item 208t, Free under the British Preferential Tariff and at 15 p.c. under the Most-Favoured-Nation Tariff; when dutiable they are largely subject to duty drawback because 90 per cent of this consumption is in the production of goods for export. For other uses, it would be entered under tariff item 208t at rates of Free and 15 p.c. Practically all imports are from the United States. In view of the size of the domestic market, Canadian production appears unlikely in the near future; at the moment the total Canadian consumption is only 1/9 of the capacity of the biggest producer in the United States, and 1/6 of the capacity of the smallest. The Board is recommending free entry under all Tariffs for sodium without end-use qualification.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.06 Hydrochloric acid, including anhydrous hydrogen chloride, and chlorosulphonic acid:			
(1) Hydrochloric acid, including anhydrous hydrogen chloride	Free	15	25
(2) Chlorosulphonic acid	Free	Free	Free

Hydrochloric Acid

Hydrogen chloride is a gas readily soluble in water; in its aqueous solution it is known as hydrochloric acid or muriatic acid; in its anhydrous form, whether gaseous or liquefied, it is known as anhydrous hydrogen chloride. However, in this summary, and frequently in commerce, the term hydrochloric acid is used to cover the anhydrous forms as well as the aqueous solution.

In one or other of its forms, hydrochloric acid was produced by eight companies in eleven plants situated in Alberta, Ontario and Quebec in 1962. About two-thirds of production is marketed commercially and one-third used captively. In 1964, Canadian production in terms of 100 per cent acid is estimated at 42,000 tons; in the five-year period 1960-64, it averaged 37,000 tons annually. In 1964, imports were 406 tons and exports, 4,291 tons. For the five-year period, 1960-64, imports averaged 330 tons and exports, 3,200 tons.

The commercial market, largely in Quebec and Ontario, was about 28,000 tons valued at \$3.2 million in 1964; almost all the acid consumed in British Columbia is imported from the United States. The two largest uses are in the treatment of oil and gas wells and the production of sodium glutamate; several other uses are important.

All our foreign trade is with the United States; in volume, imports supply less than 1 per cent of our total market, though British Columbia is almost entirely dependent on imports; exports, which are admitted duty-free into the U.S.A., have increased in recent years and account approximately for 14 per cent of the Canadian sales.

The landed price of the Quebec and Ontario products is comparable with that in the competitive area in the northern United States; it is more economical for users in British Columbia to import: United States prices are lower in the northwestern States and prices in Alberta are higher than in the rest of Canada.

The producers sought rates of 15 p.c. and 20 p.c.; the present effective rate on all imports of the aqueous solution is equivalent to 15 p.c. under tariff item 217 and 217a and, on the anhydrous, it is 20 p.c. under tariff item 711. Apprehension was voiced about possible surplus production in the United States though this apprehension seems unwarranted in the face of the evidence. Transportation costs are an important factor in determining the extent of a producer's market.

About two-thirds of Canadian production originates in plants also producing chlorine and chlorinated hydrocarbons. There is a complicated interrelationship between the production of the acid as a by-product, the production of the chlorinated hydrocarbons and the use of chlorine or hydrochloric acid in these processes. No evidence showed the appropriateness of the rates urged.

Current lexicography and usage suggest that the term "anhydrous hydrogen chloride" is used to distinguish the liquid or gaseous form from the aqueous solution; this distinction appears also to be made in the current administration of the Customs Tariff. To the language of the Brussels Tariff Nomenclature heading 28.06, the Board is recommending, for greater clarity, the addition of the words "including anhydrous hydrogen chloride" to the words "hydrochloric acid".

The rates the Board is recommending are not the 15 p.c. and 20 p.c. proposed but rather Free and 15 p.c., a continuation and extension of the free British preferential rate for the aqueous solution under tariff item 217a and a continuation and conversion to ad valorem terms of the specific most-favoured-nation rate for the aqueous solution under tariff items 217 and 217a and its extension to the anhydrous form.

Chlorosulphonic Acid

The major use of chlorosulphonic acid in Canada is in the manufacture of detergents and surfactants; consumption is about 800 tons annually. There is no domestic production and imports are all from the United States.

At present this acid is entered under tariff item 216, Free and 15 p.c.; conflicting representations were made before the Board on the level of rates. There was evidence that the size of the market and the capital investment required make Canadian production unlikely; in the circumstances of chlorosulphonic acid, it does seem that a rate of duty serves only to raise the cost to the consumer without benefit to any producers. There was also evidence that transportation costs would severely limit the market area for a producer - a situation in which a duty could readily increase the cost to a consumer in one region without benefit to a potential producer in that or any other region.

In the circumstances the Board is recommending free entry under all three Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.07 Sulphur dioxide	Free	Free	Free

Because of its toxicity to mankind and its destructiveness to vegetation, sulphur dioxide cannot be discharged to the atmosphere in any appreciable concentration. It is produced in Canada by burning

elemental sulphur in air or by recovery from waste gases of smelters and oil refineries. There are two Canadian producers with a joint capacity of close to 100,000 tons annually.

As a merchant product sulphur dioxide is mainly used by the wood-pulp industry; the annual use in the manufacture of wood-pulp increased from 600 tons in 1951 to 82,000 tons in 1962 while the price per ton, in Canada, declined from \$118.19 to \$24.56; in 1962, over and above its purchases of 82,000 tons, the pulp and paper industry produced another 630,000 tons for captive use by burning elemental sulphur.

The price per ton in the United States at \$U.S. 90.00 is almost four times the Canadian price. The principal competition comes from sulphur which is purchased by some pulp and paper companies to produce their requirements captively by converting sulphur into sulphur dioxide.

Sulphur dioxide is now classified as an unenumerated article under tariff item 711 at rates of 15 p.c. and 20 p.c. One of the two producers urged retention of these rates. The only reason advanced for this proposal was protection against unforeseen circumstances.

There is no effective competition from imports. In its principal uses sulphur dioxide competes mainly with elemental sulphur for which the Board is recommending free entry under all Tariffs. Canadian productive capacity is not in excess of Canadian needs; indeed the producers' sales are limited more by lack of raw material than by imports. A duty, therefore, would force the consumer to pay more for a commodity unavailable domestically when production was insufficient. The Board can find no reason to continue the existing rates and recommends free entry under all Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.08 Sulphuric acid; oleum	10	15	25

In volume and variety of uses, sulphuric acid is perhaps the most important industrial chemical. In 1964, Canadian production amounted to 1,960,000 tons valued at about \$44 million. Approximately half was for captive use. The cost of transportation is a substantial portion of the delivered cost, sometimes 50 per cent or more of the f.o.b. price of the acid. Foreign trade, virtually all with the United States, is small and exports are generally much larger than imports. In 1962, 21 producing plants were in operation with an annual capacity in excess of 2 million tons. In the competition for markets, location of plant is the most important factor because of transportation costs and the Canadian producers benefit from this factor. At present, under tariff items 217 and 217a, sulphuric acid is dutiable under the British Preferential Tariff at 17½¢ per 100 pounds if in packages weighing more than 100 pounds and Free if in packages weighing not more than 100 pounds, and under the Most-Favoured-Nation Tariff at 22½¢ per 100 pounds in all cases. The ad valorem equivalent of the specific rate under the Most-Favoured-Nation

Tariff is about 19 per cent. The industry sought the usual 15 p.c. and 20 p.c.: however, the Board considers these rates high in the circumstances and recommends 10 p.c. under the British Preferential Tariff and 15 p.c. under the Most-Favoured-Nation Tariff.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.09 Nitric acid; sulphonitric acids	10	15	25

Nitric acid is produced in Canada by seven companies, two of which sell the acid and five of which produce for captive use. The seven companies had an annual capacity of over some 439,000 tons of 100 per cent acid in 1962. Captive use accounts for 95 per cent of production and fertilizer production for close to 75 per cent. Imports are negligible. The commercial market for nitric acid underwent a marked temporary expansion in the late 1950's by reason of its use in the treatment of uranium ore; this use, in 1960, represented 90 per cent of the total commercial market of 23,000 tons; subsequently, sales for this use diminished greatly; the location of the uranium market, far from producers in the United States of America almost ensures it to the Canadian suppliers even without Customs Tariff duties.

Nitric acid, under tariff items 711 and 216c, is entered at 20 p.c. under the Most-Favoured-Nation Tariff; under the British Preferential Tariff it is entered Free under tariff item 216c if it is in packages weighing not more than 100 pounds and at 15 p.c. under tariff item 711 when in packages weighing more than 100 pounds unless the acid is of grades other than commercial or chemically pure in which event it is entered under item 216 at Free and 15 p.c. All imports have been from the United States of America. It is apparent that close to 95 per cent of our market is captive and domestic producers are favourably located to compete with imports in the commercial market. The Board is therefore recommending lower rates than have been prevailing: 10 p.c. under the British Preferential Tariff and 15 p.c. under the Most-Favoured-Nation Tariff.

Sulphonitric acids are mixtures of sulphuric and nitric acids, and, as such, are entered under tariff item 220a(i) at rates of 15 p.c. and 20 p.c., for each of the constituent acids. The Board has recommended rates of 10 p.c. and 15 p.c. The mixtures vary with customer specifications. The market is very small. There appear to be neither exports nor imports. The Board consequently recommends, for the mixtures, the same rate as for the two components: 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.10 Phosphorus pentoxide and phosphoric acids (meta-, ortho- and pyro-)	Free	15	25

Phosphorus pentoxide is the anhydride of phosphoric acid and combines with water to form the acid. The acid is used principally in the production of phosphatic fertilizers and phosphorus compounds. Fertilizer manufacturers usually produce their own acid captively by the wet process. The Electric Reduction Company is the sole producer of acid by the electro-thermal process and the sole merchant producer;

more than 90 per cent of its production is used captively. Formerly the company made phosphorus pentoxide but the domestic market has become too small for economical production and now none is made in Canada. In 1964, at parity of exchange, the published Canadian price of electro-thermal phosphoric acid was between 27 and 28 per cent higher than in the U.S.A. Imports are usually small and normally all from the United States of America and mostly to Alberta and British Columbia.

Both the acid and the pentoxide are entered Free under the British Preferential Tariff. Under the Most-Favoured-Nation Tariff the pentoxide is entered at 20 p.c. under tariff item 208p and the acid at 25 p.c. under item 216b, and both are admissible free of duty when for use in the manufacture of fertilizers or of animal feeds; the producer sought most-favoured-nation rates of 20 p.c. for both. The Board agrees that uniformity of rate is desirable here and that the rate should be consistent with the rate for phosphorus, the principal raw material. The producer's real concern was the possible importation of phosphoric acid to produce phosphates to be sold in competition with the producer's own phosphate production. In line with its other recommendations on phosphorus and phosphorus sesquisulphide the Board recommends rates of Free, B.P., and 15 p.c., M.F.N., for both phosphorus pentoxide and phosphoric acids.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.11 Arsenic trioxide, arsenic pentoxide and acids of arsenic:			
(1) Other than the following	Free	15	25
(2) Arsenic trioxide	10	15	25

Of the acids of arsenic (meta-, ortho-, and pyro-) only ortho-arsenic acid was the subject of representations before the Board; it is now imported for the manufacture of lead arsenate and calcium arsenate, almost entirely from the U.S.A., free of duty under the end-use provisions of tariff item 791 (Recommended Item R-35). For general use all three acids of arsenic would be dutiable under tariff item 216 at rates of Free, B.P., and 15 p.c., M.F.N., continuation of which the Board recommends.

On arsenic pentoxide the Board has no data and no representations. It recommends continuation of the rates now applicable under tariff item 208t, Free and 15 p.c.

Arsenic trioxide is made in Canada by one producer only; the arsenic is a poisonous by-product of a silver-smelting process the disposal of which would be less economic than the recovery of arsenic trioxide. Consumption was said to be about 400 tons annually, a figure within the producer's productive capacity; about two-thirds of the consumption is in the production of sodium arsenite, a herbicide. Arsenic trioxide, also known as arsenious oxide, is entered free of duty under all Tariffs under tariff item 208 and under the end-use provisions of tariff item 791 (Recommended Item R-35). The producer urged rates of 15 p.c. and 25 p.c. Two consumers supported the plea and a third did also provided that there was "compensating duty protection" on sodium arsenite. A group of pesticide manufacturers and the agricultural interests proposed free entry for purposes related to their uses. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.12 Boric oxide and boric acid:			
(1) Boric acid	Free	Free	Free
(2) Boric oxide	Free	15	25

Boric acid (boracic acid) is not produced in Canada; all imports are from the U.S.A.; in 1964 they amounted to 1638 tons valued at \$224,000. It is now entered free of duty under all Tariffs under tariff item 208 when in packages of not less than 25 pounds and otherwise at rates of Free, B.P., and 15 p.c., M.F.N., under tariff item 216; it is also subject to free entry under the end-use provisions of tariff item 791 (Recommended Item R-35). All proposals were for free entry and it was represented that boric acid was unlikely to be produced domestically for many years. There is a purity criterion of 85 per cent in the Brussels Nomenclature; the Board recommends free entry under all tariffs without criterion of purity and without the packaging distinction which now exists.

Boric oxide is not produced in Canada and no data concerning it are available to the Board. It is now subject to rates of Free, B.P., and 15 p.c., M.F.N., under tariff item 208t. The Board recommends that these rates be continued.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.13 Other inorganic acids and oxygen compounds of non-metals (excluding water):			
(1) Other than the following	Free	15	25
(2) Carbon dioxide	10	15	25
(3) Fluoroboric acid	10	15	25
(4) Fluorosilicic acid	Free	Free	Free
(5) Hydrofluoric acid	10	15	25
(6) Nitrous oxide	10	15	25
(7) Sulphamic acid	Free	Free	Free
(8) Sulphur trioxide	Free	Free	Free

A number of chemicals in this Recommended Item are now entered at rates of Free, B.P., and 15 p.c., M.F.N., under tariff item 208t or 216, as chemicals or acids of a kind not produced in Canada; they include bromic acid, chloric acid, disulphur trioxide, fulminic acid, hydrazoic acid, hydriodic acid, hydrobromic acid, hydrogen selenide, hydrogen sulphide, hydrogen telluride, hypochlorous acid, hypophosphoric acid, hypophosphorous acid, iodic acid, iodic acid anhydride, isocyanic acid, nitrogen dioxide, perchloric acid, periodic acid, persulphuric acid, persulphuric anhydride, phosphorous acid, selenic acid, selenious acid, selenious anhydride, telluric acid, telluric anhydride, tellurous acid, tellurous acid anhydride subject to end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), thiocyanic acid, thionic acids, tungstoboric acid and tungstosilicic acid. For these products the Board recommends continued rates of Free and 15 p.c.

Carbon dioxide is discussed with other gases under Recommended Item 28.04; it is produced for merchant sale by only one company in six plants across the country; many other companies recover the product for captive use. The merchant market for carbon dioxide is estimated at about 30,000 tons with a value in excess of \$2 million. Import and export data are not available but it appears that the domestic producer supplies by far the largest part of the domestic market. The sole domestic merchant producer urged that imports were exerting a downward pressure on domestic prices. Carbon dioxide is now entered, under tariff item 711, at rates of 15 p.c. and 20 p.c. and the domestic producer urged that these rates continue in effect. The Canadian Pharmaceutical Manufacturers Association supported these rates. The Canadian manufacturer urged high Canadian production costs, the high cost of machinery because of high tariff protection, high costs of distribution, seasonal fluctuation and the small Canadian market. However the producer's new plant in Maitland, Ontario, is comparable in size with larger installations in the United States and has advantages of location with respect to a large part of the market and to the gas used as a raw material. As it has done for many other inorganic chemicals, the Board recommends rates of duty of 10 p.c. and 15 p.c. for carbon dioxide - a decrease of 5 p.c. in both Tariffs.

Carbon monoxide is discussed with other gases under Recommended Item 28.04; it is better known to the public as a highly poisonous by-product of the internal combustion engine's exhaust than as a chemical. It is used in some chemical processes and also as a fuel. There appears to be no market for it in Canada. It is now dutiable under tariff item 208t: Free, B.P., and 15 p.c., M.F.N. No proposals were received other than the Industry Committee's general proposal of 15 p.c. and 20 p.c.: the effect of this proposal would be to increase rates and reduce the preferential margin on a product which appears to have no commercial importance. The Board is recommending that the existing rates: Free and 15 p.c. be continued.

Fluoboric acid is produced in Canada; its major use is in the production of fluoborates; the market was said to be small and there appears to be neither imports nor exports; possible competition appeared to be from a producer in the U.S.A. but the Canadian producer has advantages of location. Fluoroboric acid is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. which the producer proposed be continued. The Board recommends rates of 10 p.c. and 15 p.c.

Fluorosilicic acid is produced in Canada. It is used in the fluoridation of water supplies and in the production of fluorosilicates. Until 1962 there was only one producer, Consolidated Mining & Smelting, and it produced only for captive use; prior to 1962 imports were in the vicinity of 100 tons and by 1963 they had reached 479 tons valued at some \$40,000. Nichols Chemical entered production in 1962 and in 1965 Electric Reduction Co. announced its intention to produce, in part for export. Fluorosilicic acid, under its synonym hydrofluosilicic acid, is now entered, Free of duty under all Tariffs, under tariff item 208. Only Consolidated Mining made representations and it proposed continued free entry urging avoidance of action which might prejudice its prospective market in the U.S.A. The Board recommends continued free entry.

Hydrofluoric acid is produced for sale by Nichols Chemical and captively by Consolidated Mining. Its principal uses are in the production of high grade gasoline and as a fluorinating agent. The market is probably in excess of \$500,000 - imports supply about 10 per cent of its requirements. Canadian prices are roughly 20 per cent higher than those in the U.S.A. Hydrofluoric acid is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. which Nichols Chemical sought to have continued; Consolidated Mining urged no increase. Though Nichols Chemical cited disadvantages of small scale production, its plant is comparable in size to a large number of plants in the U.S.A. and by reason of location it has freight cost advantages. For hydrofluoric acid the Board recommends rates of 10 p.c. and 15 p.c.

Hydrogen cyanide is not produced in Canada though it does occur as an intermediate in the production of sodium cyanide. It is also known as hydrocyanic acid and is entered under tariff item 216 at rates of Free and 15 p.c., subject to the end-use provisions of items 219e (Recommended Item 38.11) and 791 (Recommended Item R-35). Shawinigan Chemicals, a producer of sodium cyanide, proposed rates of 15 p.c. and 20 p.c. lest hydrogen cyanide later become important when acrylonitrile was produced in Canada, as it now is by Imperial Oil. The Board recommends rates of Free and 15 p.c.

Nitrous oxide, more generally known as laughing gas, is discussed with other gases under Recommended Item 28.04; it is made in Canada by four producers using a batch process said to be more costly than the continuous process used by larger plants in the United States of America. Three of the producers produce for the commercial market and one for its own use. Production for sale is estimated to be something less than one million pounds with a value of about \$600,000. There appears to be some imports in the Vancouver area only. Prices in Canada and the United States were said to be comparable. New bulk transportation methods were said to constitute a threat of import competition. Nitrous oxide is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board is recommending rates of 10 p.c. and 15 p.c.

Silicon dioxide, in its chemical forms, is not produced in Canada. Subject to the end-use provisions of tariff items 791 (Recommended Item R-35) and 921, silicon dioxide is entered under tariff item 208t at rates of Free and 15 p.c. The only representations made related to a powder called "Cab-o-sil", produced in the U.S.A. by Cabot Corporation and marketed in Canada by Cabot Carbon of Canada; it was said to be particularly useful as a thixotropic agent for polyester and epoxy resins and certain other purposes; 40 per cent of the sales were said to be entered under tariff item 208t and 60 per cent were said to be free of duty under items 791 (Recommended Item R-35) and 921, most of the free imports being under 921. Cab-o-sil appears to compete with metallic stearates. Cabot Carbon proposed free entry for Cab-o-sil and three producers of stearates proposed rates of 15 p.c. and 20 p.c.; the Rubber Association, a consumer, proposed free entry. The Board recommends continued rates of Free and 15 p.c.

Sulphamic acid, not produced in Canada, is used mainly as a sulphating agent in liquid detergents and, to a much lesser extent, in the production of coloured pigments. Detergents made with chlorosulphonic acid, sulphamic acid or sulphur trioxide were said to be

competitive though the three products are not substitutable in the production processes. Imports, all from the U.S.A., were valued at \$120,000 in 1963. Sulphamic acid was estimated to constitute 10 to 15 per cent of the cost of manufacturing the detergents; it is now entered under tariff item 216 at rates of Free and 15 p.c., subject to end-use item 791 (Recommended Item R-35). Lever Brothers Ltd., a consumer for detergents, the colour makers and Chemical Developments of Canada Ltd. all proposed free entry. A group of seven acid manufacturers urged that there be rates of 15 p.c. and 20 p.c. upon commencement of Canadian production. The Board recommends free entry.

Sulphur trioxide is principally used in the manufacture of liquid detergents. It is not available from Canadian production in the usual commercial form of a stabilized solution; all supplies are from the U.S.A. Although, until 1961, its stabilized form was imported under tariff item 220a(i) at rates of 15 p.c. and 20 p.c., both forms are now entered under item 208t at rates of free and 15 p.c. In its stabilized form it is imported under tariff item 220a(i) at rates of 15 p.c. and 20 p.c.; without stabilizer it would be entered under tariff item 208t at rates of Free and 15 p.c. Procter & Gamble proposed free entry until made in Canada. As for sulphamic acid in the previous paragraph, the Board recommends free entry under all Tariffs.

Recommended Item

B.P. M.F.N. G.T.

28.14 Halides, oxyhalides and other
 halogen compounds of non-metals:

(1) Other than the following	Free	15	25
(2) Phosphorus oxychloride	Free	Free	Free
(3) Phosphorus pentachloride	Free	Free	Free
(4) Phosphorus trichloride	Free	Free	Free

Arsenic trichloride, arsenic tri-iodide, carbon oxychloride, iodine bromide, iodine chloride, iodine trichloride, iodine tri-fluoride, nitrosyl chloride, the oxybromides, the oxyfluorides, the oxyiodides, selenium oxychloride, silicon tetrachloride, sulphur dichloride, sulphuryl chloride (subject to end-use item 921) and thionyl chloride, all chemicals of a kind not produced in Canada, are entered under tariff item 208t, at rates of Free, B.P., and 15 p.c., M.F.N.; continuation of these rates is recommended by the Board. The crude bromides of end-use item 208w2 would also be entered at Free and 15 p.c.

Phosphorus di-iodide, phosphorus fluorides, phosphorus pentabromide, phosphorus tribromide and phosphorus tri-iodide are now entered under item 208p as compounds of phosphorus at rates of Free and 20 p.c. For these chemicals the Board is loath to perpetuate the M.F.N. rate of 20 p.c. for which no good reason appears; though it involves a slight reduction in preference, the Board recommends rates of Free and 15 p.c.

Phosphorus oxychloride, phosphorus pentachloride, and phosphorus trichloride are the only products of this Recommended Item which were the subject of representations to the Board; all three are used as intermediates in organic synthesis; none of the three is made

in Canada because of the small market and importation from Britain is impractical because of transportation problems. At present phosphorus pentachloride and phosphorus trichloride as well as many other phosphorus compounds are entered Free under the British Preferential Tariff and at 20 p.c. under the Most-Favoured-Nation Tariff under item 208p; phosphorus oxychloride is entered under tariff item 208t at rates of Free and 15 p.c. The one Canadian phosphorus producer proposed most-favoured-nation rates of 15 p.c. on the oxychloride and pentachloride and 10 p.c. on the trichloride until they are made in Canada when the 20 p.c. rate would be restored. Because they are not made in Canada nor likely to be and because they are not imported from British preferential sources nor likely to be, the Board is recommending free entry under all Tariffs for the three phosphorus chlorides.

For sulphur monochloride and boron trifluoride, the Board was able to obtain very little information; there were no indications of imports from preferential sources. However to avoid change in the margin of preference the Board is recommending continuation of the existing rates of Free and 15 p.c., now prevailing under item 208t, instead of free entry under both Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.15 Sulphides of non-metals; phosphorus trisulphide:			
(1) Other than the following	Free	Free	Free
(2) Phosphorus pentasulphide	Free	5	20
(3) Other sulphides of phosphorus including phosphorus trisulphide	Free	15	25
(4) Silicon sulphide	Free	15	25

Although this Recommended Item covers many known chemicals, few have commercial importance in Canada. Only carbon disulphide, phosphorus pentasulphide and phosphorus sesquisulphide were the subject of representations before the Board.

Arsenic disulphide, arsenic pentasulphide, arsenic trisulphide, are now entered free of duty under all Tariffs under tariff item 208. For these the Board proposes no change.

Silicon sulphide is now entered under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N. To avoid a change in the margin of preference the Board recommends that these rates be continued.

Tellurium sulphide, also classified in tariff item 208t, would be admitted free of duty.

Carbon Disulphide

The sole producer of carbon disulphide in Canada is located in Cornwall, Ontario. The company uses the older charcoal and coke process as opposed to the newer natural gas process which is believed to be more economical because of its adaptability to large scale production; it was represented to the Board that in existing Canadian circumstances, the plant required for production from natural gas would be too large for economical operation. However, in June 1964, announcement was made that another company would build a plant for the manufacture of carbon disulphide at Fort Saskatchewan, Alberta, and in July 1965, the Cornwall producer reported that a second plant would be built at Cornwall. It is understood that these two new plants will use the natural gas process.

Three-quarters of our consumption of carbon disulphide is used in the manufacture of regenerated cellulose for the production of rayon and transparent cellulose film. The total annual Canadian consumption is in excess of 10,000 tons with a value of about \$1,000,000. The Canadian producer supplies at least 90 per cent of the Canadian market. In 1962 and 1963, imports were less than one per cent of Canadian use. Exports are negligible. All foreign trade is with the United States. Prices in the United States are lower than in Canada; in 1960, a producer in the United States had extended its delivered price to Canadian destinations but in 1961 this practice was changed to that of freight equalization, a change which should prove advantageous to the Canadian producer.

Transportation costs are quite high and about 75 per cent of the domestic producer's output is used by a consumer in the same city.

Carbon disulphide may now enter free of duty under tariff item 208 and 219e (Recommended Item 38.11). The usual plea was made by the producer for rates of 15 p.c. and 20 p.c. The Primary Textiles Institute urged a 5 p.c. most-favoured-nation rate and another consumer took no issue with the rates proposed provided the Board recommended the rates proposed by it on its own products. The only significant rate is the most-favoured-nation rate because the only imports are from the United States - a situation which is unlikely to change.

In 1960, import competition brought about a reduction in domestic price; the sole domestic producer nevertheless supplies at least 90 per cent of the domestic market and transportation problems contribute substantially to the preservation of this situation. The Board, therefore, finds no reason to recommend any change in the present free entry of carbon disulphide.

Phosphorus Pentasulphide

Phosphorus pentasulphide was produced in Canada during World War II but is no longer. The former producer, Electric Reduction Company of Canada Limited, estimates the annual Canadian consumption to be about one million pounds, though much of this total would not be imported as such but rather as a component of another product.

The product is now entered at Free and 20 p.c. under item 208p, though for use in the manufacture of certain oil additives it benefits from the end-use provisions of tariff item 220e with entry at Free and 5 p.c. Proposals were made for a most-favoured-nation rate of 5 p.c. as long as the product is not made in Canada; one of the principal consumers agreed to these proposals. To the Board, the rates of Free and 5 p.c. appear appropriate; it is unlikely that the product will be produced in Canada in the near future and imports from British preferential sources seem improbable. Accordingly, the Board is recommending free entry under the British Preferential Tariff and a rate of 5 p.c. under the Most-Favoured-Nation Tariff.

Phosphorus Sesquisulphide

This product is made in Canada only by Electric Reduction Company of Canada Limited at Buckingham, Quebec. It is used in making matches which can be struck anywhere. Some 40 per cent of the production is exported to several countries excluding the United States.

Phosphorus sesquisulphide is now entered at Free and 20 p.c. under item 208p. In line with its other recommendations on phosphorus and certain phosphorus products, the Board is recommending rates of Free, B.P., and 15 p.c., M.F.N. This rate is recommended for all the sulphides of phosphorus except the pentasulphide.

For uniformity of nomenclature in relation to sulphide of arsenic, now entered Free under tariff item 208, the Board is recommending the introduction of an item, R-7, to provide, at the same rates, for naturally occurring arsenic sulphides which would not fall within Recommended Item 28.15.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.16 Ammonia, anhydrous or in aqueous solution	10	15	25

In 1964, eight companies operated nine plants with a productive capacity of about 700,000 tons of ammonia per year. Further expansion in capacity to more than 2 million tons by 1967 is likely as a corollary of probable increase in demand. In 1964, consumption was some 690,000 tons with a commercial value of about \$55 million; approximately two-thirds of the production is captive, 30 per cent is sold in the domestic market and 2 per cent is exported. About 65 per cent of consumption is in the manufacture of fertilizers. Imports are not important. With the exception of Edmundston, New Brunswick, plant location and freight rates give the domestic producers an advantage over foreign competitors. List prices in Canada have been lower than those in the United States for some time: in 1964 the fertilizer grade price in the United States was 9 per cent higher though in the United States prices are somewhat lower west of the Rocky mountains than east of the Rockies and sales there appear to be made below list price.

Ammonia is now entered under tariff item 711 at 15 p.c. and 20 p.c. unless it benefits by one of the items 663 (Recommended Item 31.00), 663b (Recommended Item R-31) or 851 which would continue unchanged; all imports are from the United States and all appear to have been entitled to duty drawback. Instead of recommending the existing rates, the Board recommends rates of 10 p.c. under the British Preferential Tariff and 15 p.c. under the Most-Favoured-Nation Tariff.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.17 Sodium hydroxide (caustic soda); potassium hydroxide (caustic potash); peroxides of sodium or potassium:			
(1) Potassium hydroxide (caustic potash)	7½	7½	20
(2) Potassium peroxide	Free	15	25
(3) Sodium hydroxide (caustic soda)	10	15	25
(4) Sodium peroxide	Free	15	25

Potassium hydroxide (caustic potash) was not produced in Canada till 1960; it is now made by two companies: one in Cornwall, Ontario, and one in Warfield, British Columbia, which produces principally for its own requirements. Only the 45 per cent solution is produced in Canada. Expressed in terms of anhydrous product, domestic consumption in 1962 was estimated at 3,000 tons valued at more than \$500,000. It appears that the imports from Europe were all of the anhydrous material; those from the United States of America were of both the anhydrous and the 45 per cent solution. Half the domestic disappearance is used by the soap and detergent industry; it is also used in the production of liquid fertilizers.

Potassium hydroxide in solution is hazardous and costly to transport and is, therefore, usually bought in large quantities by consumers relatively close to the supplier; others are more likely to purchase the anhydrous form. As a result of domestic production of the 45 per cent solution, the imports in solution, all from the United States of America, declined substantially; imports of the anhydrous product have been increasing. In the Toronto-Hamilton market area where the soap and detergent industry is concentrated, the producer in Cornwall is at a transportation disadvantage of \$2.40 - \$3.40 per ton; this disadvantage reaches \$26.60 in British Columbia.

At present, caustic potash is entered, under tariff item 209a, Free of duty under all Tariffs when in packages of not less than 25 pounds in weight otherwise the rates are 10 p.c. and 12½ p.c. There are also special end-use provisions such as tariff items 663b (Recommended Item R-31) and 851 which would continue unchanged. For almost all imports the effective rate has been free entry; the proposal of rates of 15 p.c. and 20 p.c. would consequently represent an

increase in the effective rate from Free to 20 p.c. because few imports have originated in countries entitled to British preference. No one sought to continue the differentiation in rates on the basis of the size of package.

The production methods are similar to those of sodium hydroxide; chlorine is a co-product; scale is less important than transportation of the finished product. In the Toronto-Hamilton area, which accounts for 50 per cent of the domestic market, the Cornwall producer does suffer some disadvantage - about 5 per cent of the selling price; but elsewhere in Ontario and Quebec, provinces which account for 75 per cent of the domestic market, it usually has an advantage. In areas more remote from the site of production, even the proposed duties would hardly prevent importation though they would increase costs to the consumer. For some purposes, only the anhydrous form, not made in Canada, can be used. The Board, to resolve the conflict of interest between producer and user and between areas, recommends rates of $7\frac{1}{2}$ p.c. and $7\frac{1}{2}$ p.c.

Potassium peroxide, on which there is no data before the Board, is now entered under tariff item 208t, at rates of Free and 15 p.c., which the Board recommends be continued.

Sodium hydroxide, more generally known as caustic soda, is one of the more important chemicals; as a joint product, it is intimately linked with chlorine and for this reason it is discussed with chlorine in Recommended Item 28.01.

In 1961, the Canadian production of caustic soda was 415,000 tons with a value of about \$26 million; the commercial market was 284,000 tons valued at about \$18 million and the imports, about 37,000 tons with a value of a little over \$2 million; the export figure is not available for 1961 but in 1960 it was over 2,000 tons valued at \$95,000. About one-third of the Canadian demand is satisfied by captive production. The domestic disappearance, in 1961, was 452,000 tons. Over the years, United States prices for caustic have been 5 to 10 per cent lower than Canadian prices.

When dry, sodium hydroxide is entered under item 210a(1) at rates of 1/5 ct. and 3/10 ct. per lb. when in packages of not less than 25 pounds; in smaller packages it is dutiable under tariff item 210a(2) at $17\frac{1}{2}$ p.c. and 25 p.c. In solution, it is entered under tariff item 210c, at rates of 15 p.c. and $17\frac{1}{2}$ p.c.

Nearly all of what has been said about chlorine in the Summary and Conclusions for Recommended Item 28.01 may be repeated here: geographical distribution of consumption, important users, importance of transportation costs, relation between productive capacity and consumption, imports, rate proposals, tariff considerations, conclusions and rate recommendations.

For reasons similar to those given for chlorine, the Board is recommending rates of 10 p.c. and 15 p.c. for sodium hydroxide or caustic soda.

Sodium peroxide when dissolved in water yields hydrogen peroxide and sodium hydroxide; it is consequently competitive with

hydrogen peroxide. It is not made in Canada and the domestic market now appears to be close to 500,000 pounds per annum, less than it was before hydrogen peroxide production was established in Canada. Imports are mainly from Britain with some from the U.S.A. also. Sodium peroxide is now entered, under item 210, at rates of Free, B.P., and $12\frac{1}{2}$ p.c., M.F.N. For hydrogen peroxide, in Recommended Item 28.54, the Board is recommending rates of Free and 15 p.c. For sodium peroxide it also recommends rates of Free and 15 p.c.

Recommended Item

B.P. M.F.N. G.T.

28.18 Oxides, hydroxides and
 peroxides, of strontium
 or barium; hydroxides
 and peroxides of magnesium;
 oxides of magnesium, howso-
 ever produced, not less
 than 94 per cent pure:

(1) Other than the following

Free 15 25

(2) Magnesium oxide,
 howsoever produced, not
 less than 94 per cent
 pure

Free Free Free

Barium hydroxide and barium oxide are not produced in Canada. The hydroxide is a basic component of some lubricating greases and is also used as a stabilizer for vinyl type synthetic resins. The oxide is used in the manufacture of additives for lubricating oils. The hydroxide and the oxide of barium are closely related, the hydroxide being the aqueous solution of the oxide; they are interchangeable in certain uses. Imports, all or nearly all from the United States of America, in 1963, were valued at \$65,000. As chemicals both products are now entered under tariff item 208t, Free, B.P., and 15 p.c., M.F.N.; under tariff item 220e, they qualify for Free entry, B.P., and 5 p.c., M.F.N., when they are for use in the manufacture of additives for heating, lubricating and fuel oils. Some forms of barium oxide may be entered as oxides under tariff item 246 at rates of $12\frac{1}{2}$ p.c., B.P., and $17\frac{1}{2}$ p.c., M.F.N., if they do not benefit from end-use provisions. There were proposals for free entry of the chemical forms of both products while they are not made in Canada and rates of 15 p.c. and 20 p.c. upon commencement of Canadian production and also for preservation of the existing rates of Free and 15 p.c. to prevent loss of preference to British sources of both products. The Board is recommending the latter course.

Magnesium hydroxide in aqueous suspension (milk of magnesia), produced in Canada since 1963, is dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c.; in its other forms it is entered either under tariff item 208t at Free and 15 p.c. or under tariff item 246 at $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. When for use as a fertilizer it is entered at Free and 5 p.c. under tariff item 663 (Recommended Item 31.00). Like barium hydroxide, it is subject to end-use item 220e. The Board, without distinction between forms of the product, recommends rates of Free and 15 p.c.

Magnesium oxide presented to the Board difficult problems of nomenclature related to the separation of the chemical and mineral forms. It can be derived by calcination from a number of naturally-occurring minerals, such as brucite which is largely magnesium hydroxide with some magnesium carbonate, or magnesite which is principally composed of magnesium carbonate. Magnesium oxide can also be derived from sea-water and various brines by chemical precipitation, as magnesium carbonate or some other insoluble compound of magnesium, followed by calcination of the precipitate.

The chemical purity and many of the physical properties of the magnesium oxide so-produced vary greatly; they depend, of course, on the purity of the original raw material and upon the processes to which it has been subjected.

In Canada, magnesium oxide is produced only from the minerals, magnesite and brucite. These forms of the oxide are named in tariff item 296b(1) which is not within the Board's terms of reference. The magnesium oxides derived by precipitation and a small amount of the purer forms of the oxide derived from minerals by calcination are classified in tariff item 208t and, so far as they are chemicals and not drugs, they fall within the terms of reference. Some magnesium oxide is also imported free of duty under end-use item 296e; much or all of this would continue to be eligible for free entry under Recommended Item R-21.

In the Brussels Nomenclature, "the crude material obtained by simple calcination of magnesite or giobertite" is excluded from item 28.18 but that obtained by calcination of precipitated magnesium carbonate is included as well as "purified" magnesium oxide from any material.

Except for end-use items, then, it would appear that the forms of magnesium oxide produced in Canada are substantially, though probably not entirely, excluded from the terms of the reference and from Brussels heading 28.18, and that each includes but little of the forms of the oxide that are produced in Canada. However, the conformity between the Brussels Nomenclature and those of the relevant items of the Canadian Tariff are not completely precise; it may be also that there are forms of the oxide excluded from Brussels 28.18 that are not produced in Canada. The sole merchant producer of magnesium oxide made it clear that it was not requesting an increase in rates on its products but rather a clarification of the limits of item 208t with respect to magnesium oxides. It proposed an item which purported to distinguish, in precise words, between the types of magnesium oxide that were produced in Canada and those that were not. The Board has adopted this proposal with some modifications and to meet the needs of the problem it has recommended an item based on the Brussels heading 28.18 with slight modifications and it is also recommending, in Recommended Item R-20, a consequential amendment to tariff item 296b(1).

The only producer in Canada of magnesium oxide for domestic sale is the Aluminum Co. of Canada near Wakefield, Quebec. Canadian Refractories Ltd. is also a producer at Kilmar, Quebec, but for captive use mainly in the production of refractory bricks and ramming mixes; this captive production appears to be about 10,000 tons annually. The domestic consumption of both dead-burned and caustic calcined types of

magnesium oxide amounts to about 70,000 tons annually of which about 62,000 tons are used in refractories. The Canadian production of dead-burned and calcined magnesia in 1964 reached a record value of about \$3.5 million. In the same year imports were valued at about \$2.5 million of which about 85 per cent was classified as dead-burned magnesite under tariff item 296b(1), a product not within the Board's terms of reference, leaving about \$375,000 of imports within the Reference: Canadian productive capacity in merchant production is capable of supplying only about one-half of the commercial demand.

Detailed statistics of exports are not available; most exports are to the United States of America; in 1964, the exports of magnesium oxide products, mainly magnesia brick and shapes, were valued at \$U.S. 3.0 million. In 1965, magnesium oxide prices in the United States of America were 17.5 per cent lower than in Canada at parity of exchange. The producer for the commercial market sought no increase in rates and had no objection to free entry under both Tariffs for the magnesium now classified in tariff item 208t. The captive producer urged rates of 15 p.c. under both Tariffs, rates now in effect under tariff item 296b(1) for dead-burned or sintered magnesite, caustic calcined magnesite and plastic magnesia and opposed free entry of periclase as proposed by some others because it produces a form of magnesium oxide competitive with periclase, which, however, it does not offer for sale. The Board recommends free entry under both Tariffs for magnesium oxide not less than 94 per cent pure and for the oxide of less purity it has endeavoured to leave the rates unchanged.

Strontium hydroxide was mentioned by the pharmaceutical interests as a chemical used by them and they made it subject to their blanket rate proposal of Free and 15 p.c. when not made in Canada and 15 p.c. and 20 p.c. when made in Canada. No other products of heading 28.18 were brought to the Board's attention. For all of these the Board recommends the existing rates of Free, B.P., and 15 p.c., M.F.N., now in effect under tariff item 208t.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.19 Zinc oxide and zinc peroxide	Free	12½	25

Zinc oxide is produced in Canada by three companies, one of which is wholly owned by one of the other two; their total productive capacity is close to 30,000 tons annually. The industry operates much below its capacity and employs 60 to 70 persons. The production of zinc oxide is an enterprise requiring a relatively smaller capital investment than is generally characteristic of the chemical industry. In the process, known as the French process, used in Canada, metallic zinc is heated in the presence of oxygen; it generally yields a purer product than the American process in which zinc ore or concentrate is the raw material. Both processes are used in the U.S.A. Some 85 per cent of the cost of production is represented by the cost of the metallic zinc. The Canadian annual consumption of zinc oxide in the five years, 1959-63, has varied between 10,000 and 12,000 tons annually valued at about \$3 million. In the three years 1962-64, imports were respectively 2,736, 2,232 and 1,170 tons; although earlier

the United States of America had supplied 80 to 90 per cent of the imports, in 1961 Britain increased its share substantially and in 1962 and 1963 was the major external supplier, a change which lowered the unit value of imports by 23 per cent. Again in the three years 1962-64, exports were 1,751 tons in 1962, 4014 tons in 1963 and 3,376 tons in 1964, almost all to the United States of America. During most of the period since 1945 exports have exceeded imports.

The Restrictive Trade Practices Commission, in its 1958 Report on zinc oxide, notes a very curious situation about the price of zinc. There are two producers of refined virgin zinc in Canada: Consolidated Mining and Smelting Co. Ltd. and Hudson Bay Mining & Smelting Co. Ltd. These refiners of zinc appear to have followed a pricing policy which netted them higher returns on their domestic sales than on their sales to users in other countries. Because the zinc represents 85 per cent of the cost of producing zinc oxide, this pricing policy, at times in the past, has occasioned serious problems for Canadian producers of zinc oxide in meeting competition both in the export and the domestic market. The Board is apprehensive that any attempt to assist zinc oxide producers by way of the tariff might well be defeated by the pricing policies of the refiners of zinc.

The problems of the zinc oxide producers arise, in part, also, from the substitution of titanium dioxide for the zinc oxide used for pigmentation in the rubber and the paint and varnish industries which account for about 70 per cent of Canadian consumption. Canadian consumption has grown very little in recent years and Canadian capacity is considerably in excess of requirements.

The zinc oxide producers originally sought rates of 15 p.c. and 20 p.c. on their product; however, just prior to the public hearing, they changed their proposal to 30 p.c. and 40 p.c. Users of the product, and a foreign competitor, opposed the proposal with some vigour. Until 1961, the Canadian producers supplied about 93 per cent of the Canadian demand and much of the imports were of grades not produced domestically. Though the Canadian producers of zinc oxide are at some disadvantage in competition with the British producers, they are located in the main Canadian market area. The consumers of zinc oxide expressed concern on the effect of the proposal on their ability to compete with foreign manufacturers of products produced with zinc oxide. Concern was also expressed before the Board that the zinc oxide producers were not taking all the steps necessary to frustrate the pricing policies of the two producers of zinc -- indeed the Board is conscious that an increase in rates of zinc oxide may serve principally the purposes of the zinc producers. As for the competitive titanium oxide and the titanium oxide pigments of Recommended Items 28.25 and 32.07(7), the Board is recommending a continuation of the rates of Free, B.P., and $12\frac{1}{2}$ p.c., M.F.N., now in force under item 242.

Zinc peroxide appears to be of little importance in our commerce. It was mentioned only by the Canadian Pharmaceutical Manufacturers Association as one of a list of relatively unimportant products used by its members. It is now entered under tariff item 208t at Free and 15 p.c. Because of its lack of commercial importance the Board is recommending for it also the rates of Free and 12½ p.c. recommended for zinc oxide, thus providing only one set of rates for the entire Recommended Item.

<u>Recommended Item</u>	<u>M.F.N.</u>	<u>B.P.</u>	<u>G.T.</u>
28.20 Aluminum oxide and hydroxide; artificial corundum	Free	Free	Free

The purpose of this Recommended Item is purely to provide uniformity of nomenclature without consideration of change in rates. The Board sees advantage, for facility of interpretation, in establishing as much as possible, the complete Brussels Nomenclature for chemicals.

In the existing Customs Tariff, item *211 consists of the single word "alumina"; in its administration it covers both aluminum oxide and aluminum hydroxide in their natural and purified forms; it provides for free entry under all Tariffs.

The Brussels heading 28.20 covers aluminum oxide (alumina) which has been chemically purified but excludes bauxite which has been washed and calcined but not chemically purified. The heading also covers aluminum hydroxide (hydrated alumina) which has been chemically purified but excludes bauxite with impurities.

To effect the required distinction between the Recommended Item and existing item *211 the Board is recommending that item 211 be deleted and replaced by item R-14: "bauxite, whether or not washed or calcined".

Artificial corundum is also enumerated in Recommended Item 28.20; at present "emery, corundum and garnet in bulk, crushed or ground" are enumerated in tariff item *669. Corundum is a natural aluminum oxide with small amounts of other minerals; emery is a mixture of corundum and magnetite or other iron oxide. Artificial corundum is fused aluminum oxide and is now entered under tariff item *669. Some artificial abrasive grains of this Recommended Item may also be admitted free of duty under tariff item *671. To bring about uniformity of nomenclature it becomes necessary to delete tariff item *669 and replace it by Item R-32 which excludes artificial corundum and provides for "corundum, n.o.p., emery and garnet, in bulk, crushed or ground".

Because the products mentioned above are not within the Board's terms of reference, it has not considered them in any other aspect than that of nomenclature. In the process of relocation the Board has sought to preserve the free entry now prevailing under all Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.21 Chromium oxides and hydroxides			
(1) Other than the following	Free	15	25
(2) Chromic oxide	10	15	25
(3) Chromium trioxide	10	15	25

If for use as colours chromium hydroxides are now entered under tariff item 246 at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c.; they are also entered under end-use item 246c, free of duty under both tariffs; otherwise they are entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Chromic oxide (chromium oxide, chromium sesquioxide, chromium oxide green) is produced in Canada by two manufacturers: Abbey Chemical Company (Abbey) and British Chrome and Chemicals Canada Ltd. (British Chrome). Its uses are in pigments, tanning of leather, chromium metal production, as an oxidizing agent for aluminum and as a rust inhibitor. The market is estimated by Abbey to be some 500 tons per year; such a market would be valued at about \$400,000. About two-thirds of the use is in pigments and about one-third in metallurgy, the other uses being very small. British Chrome indicated that imports originate in the U.S.A., Germany and Australia. At present, chromic oxide is entered under the "oxides" provision of tariff item 246 at $12\frac{1}{2}$ p.c., B.P., and $17\frac{1}{2}$ p.c., M.F.N. British Chrome originally sought rates of Free and 15 p.c. but later urged 15 p.c. and 20 p.c. because these rates had been suggested for a large number of chemicals made in Canada and would give sufficient protection to a small but developing industry. Abbey also sought rates of 15 p.c. and 20 p.c. Chromic oxide was ruled to be made in Canada in August 1962. The Board recommends rates of 10 p.c., B.P., and 15 p.c., M.F.N.

Chromium trioxide has been ruled made in Canada as of May 24, 1966. It is commonly, but erroneously, called chromic acid. About three-quarters of the imports are from the United States; Britain supplies most of the remainder though there are also imports from Australia and West Germany. In 1964, imports of 2.0 million pounds had a value of \$611,000. It is used as an oxidizing agent in organic chemistry, in the production of chemicals, in anodizing metals, in tanning and in chromium plating. M. & T. Products of Canada Limited represented itself as the largest user in Canada, purchasing about 40 per cent of the imports, for the production of a chromium electroplating compound about 70 per cent of which is used by the automobile industry. At the time of the hearing the product was entered under tariff item 216; in 1966, it was ruled to be made in Canada and thus became dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c.; at all times there is however an extract providing free entry for use in the production of tin plate; as a colour it is now entered either under tariff item 246 at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. or under end-use item 246c free of duty. The magnitude of imports under the extract is not known but in the five years, 1959-63, duty-free imports of chromic acid from M.F.N. countries averaged \$55,000 annually. Most of the representations were for continuation of the present rates and an increase to 15 p.c. and 20 p.c. upon commencement of Canadian production - though there were no specific indications of why these rates would be appropriate. Since it is now ruled made in Canada, the Board recommends rates of 10 p.c., B.P. and 15 p.c., M.F.N., for chromium trioxide.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.22 Manganese oxides	Free	Free	Free

Manganese dioxide is the only significant product in this group; its principal use as a chemical is in the manufacture of batteries and there is also use in the production of chemicals; it is not made in Canada; no other chemical is substitutable for it in the manufacture of dry batteries. The capital investment for Canadian production would not be justified by the relatively small market in the view of one very large producer of chemicals. At present the product in its natural or mineral form is entered under tariff item *329: "ores of metals, n.o.p." and in its chemical form, under 335: "Manganese, oxide of"; both items provide for free entry under all Tariffs. Free entry is also provided under end-use item 246c. Continuation of free entry is recommended by the Board.

The Recommended Item also embraces several other oxides of manganese including manganese oxide, manganic oxide also described as manganese (III) oxide, manganese trioxide, manganomanganic oxide and permanganic anhydride. For these products the Board recommends continuation of the free entry provided for them in tariff item 335.

Provision for manganic hydroxide and permanganic acid is made in Recommended Item 28.28.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.23 Iron oxides and hydroxides; earth colours containing 70% or more by weight of combined iron evaluated as Fe_2O_3			
(1) Other than the following	10	15	25
(2) Iron hydroxides	Free	15	25

The iron oxides and hydroxides are largely used as pigments. There is only one producer of synthetic iron oxides in Canada. There is also some production of the natural forms. Technical improvements patented by the domestic producer allow it to sell at prices considerably lower than those in the United States. The domestic market is estimated at 8,000 to 10,000 tons annually for both the natural and synthetic products. Of imports estimated at 2,500 to 3,000 tons per year, about 1,000 tons was represented as competitive with domestic production. Imports are largely from the United States of America but also from Germany, Britain and other countries. Exports of both the natural and synthetic forms largely to the United States of America, exceed 2,400 tons annually with a value of about \$475,000 in 1964. Use by the paint and varnish industry is between 1750 and 1950 tons annually valued at about \$450,000, or about 20 to 25 per cent of the estimated total use.

Subject to end-use item 246b, iron oxides are now entered under item 245 as "ochres, ochrey earths, siennas and umbers" at 5 p.c., B.P., and $12\frac{1}{2}$ p.c., M.F.N., and item 246, as "oxides...and colours, dry, n.o.p.", at $12\frac{1}{2}$ p.c., B.P., and $17\frac{1}{2}$ p.c., M.F.N. The Canadian producer's proposals were for continuation of existing rates with certain changes in nomenclature; other proposals were to the same effect, for lower rates or for special end-use considerations. The Canadian producer's prices, though lower than prices in the United States of America, are higher than those in Europe; it urged the need for protection against U.S.A. imports - 90 per cent of the total - to induce Canadian paint companies of U.S. ownership or control to abandon U.S. formulas and adopt Canadian ones; it further urged the need for protection against the other imports because of their lower prices. Under the new Recommended Item the Board is recommending rates of 10 p.c. and 15 p.c. without perpetuating the distinction which now exists between the two items.

Iron hydroxides are now generally subject to entry under tariff item 208t at Free, B.P., and 15 p.c., M.F.N. or tariff item 246 at $12\frac{1}{2}$ p.c., B.P., and $17\frac{1}{2}$ p.c., M.F.N. The Board's recommendation is for the existing rates of Free and 15 p.c.

From the point of view of nomenclature this recommendation involves certain changes. The Recommended Item would encompass earth colours containing seventy per cent or more by weight of combined iron evaluated as Fe_2O_3 (ferric oxide). The earth colours containing less than seventy per cent would be classified in Recommended Item 25.09. In the present tariff administration the distinctions are more involved; to distinguish between items 245 and 246 the criterion is the content of claylike material which is insoluble in hydrochloric acid: if there is not more than ten per cent, the product is in item 246 and if there is more than ten per cent, the product is in item 245 as a natural or mineral product. In the case of the product with a clay content of more than ten per cent a further distinction is necessary because of item 329a: "iron ore"; if the product is used for pigmentation or colouring it is in item 245 and if it is used for the extraction of iron it is in item 329a.

Earth colours do not appear to be generally available from Canadian production. Those containing less than seventy per cent by weight of combined iron evaluated as Fe_2O_3 , for which the Board has recommended rates of Free and $7\frac{1}{2}$ p.c. in Recommended Item 25.09, are unlikely to be a suitable substitute for the high grade synthetic iron oxides of the present Recommended Item; however the earth colours of this Recommended Item, containing seventy per cent or more of combined iron evaluated as Fe_2O_3 , are more likely to compete with the synthetic oxides and for them the Board is recommending the same rates as for the oxides: 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.24 Cobalt oxides and cobalt hydroxides			
(1) Cobalt hydroxides	Free	15	25
(2) Cobalt oxides	Free	10	20

The hydroxide's main use is in the production of paint driers, in which a variety of other cobalt-bearing materials may be used. Cobalt hydroxide is not made in Canada but cobalt metal and cobalt sulphate, competitively substitutable in making paint driers, are so produced. The cobalt hydroxide appears to be imported from Britain. It is now entered, under item 208t, at Free, B.P., and 15 p.c., M.F.N. One Canadian user urged free entry under both Tariffs and another urged some uniformity in rates for the different cobalt-bearing materials used in making paint driers. The Board recommends the existing rates of Free and 15 p.c.

Cobalt oxide exists in three common forms, one of which is produced in Canada by one producer only; the domestically produced form is the cobaltic oxide; the production dates only from 1962, though for over forty years prior to 1960 there had been production by another company. The Canadian market for cobaltic oxide was estimated at 75,000 pounds annually in 1962 with a value of about \$100,000. Prior to 1960 the cobaltous oxide was also produced in Canada but is no longer. In 1962, the cobaltic oxide producer did not consider the market share of imports to be large but did consider that British producers were trying to obtain a larger share. In the export field, the producer stated that the company had an assured market in the United States for all that it could produce. The return to the company on domestic sales was slightly greater than on exports to the United States because of absorption of duty and freight charges. Cobalt oxides are now entered under item 208k, Free, B.P., and 10 p.c., M.F.N., or free of duty under end-use item 246c. The producer initially sought rates of 10 p.c. and 20 p.c. and later raised its sights to 15 p.c. and 25 p.c. Users sought either free entry under both Tariffs or continuation of the existing rates. The producer, principally a refiner of silver concentrates, sought a higher return on its by-products as an essential prerequisite to economic operations and because of its higher return on domestic sales sought assurance of capturing a large share of this more lucrative market. The Board is recommending the existing rates of Free and 10 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.25 Titanium oxides	Free	12½	25

The only product of commercial interest under this Recommended Item is titanium dioxide also known as titania, titanic oxide, titanium oxide and titanium white. It is used chiefly as a pigment; as a pigment it is available in two forms: the pure, of Recommended Item 28.25, and the extended pigment, Recommended Item 32.07; the pure pigments are usually 94 to 99 per cent pure titanium dioxide whereas the extended pigments contain fairly large amounts of extenders such as barium sulphate or calcium sulphate. Only the pure pigment is made in Canada and there are two producers: Canadian Titanium Pigments Ltd., a United States subsidiary, and British Titan Products, a British subsidiary; they have a combined capacity of more than 60,000 tons annually. The main raw material, titanium slag and sulphuric acid, are obtained in Canada. The market for titanium dioxide is an expanding one; in 1961 it was 35,000 tons, for 1964 it

was estimated at 40,000, with a value of \$20 million, and it is expected to grow. The extended titanium pigments are not made in Canada and their imports, all from the United States of America, were 3,200 tons in 1963, somewhat less than in previous years. The domestic producers pointed to the replacement of the extended pigment by the pure pigment with anticipation of further reduction, while the paint interests urged that there were formulations for which the extended pigment was essential. The establishment of productive facilities in Canada has reduced considerably the volume of imports; the fall in imports of the extended pigment not produced in Canada has, of course, been due to a reduction in use. In Canada, prices appear to be about $12\frac{1}{2}$ per cent lower than in the United States though prices in Britain are lower than in Canada. Imports are from both countries, all pure pigment from Britain and extended pigment largely from the United States. The existing rates for titanium dioxide are Free and $12\frac{1}{2}$ p.c. under item 242 which embraces both the pigment of Recommended Item 32.07 and the chemical of Recommended Item 28.25; the rates under item 246b are free and 20 p.c. The producers sought rates of 15 p.c. and 20 p.c. for both forms of titanium dioxide; their plea was based in part upon an anticipated world surplus in 1963 which, in 1964, appears to have been unfounded: even though capacity has increased over the years so has demand. Their plea was further based upon a claimed cost disadvantage of 20 per cent which is far from clear. The titanium slag raw material is available from a source nearby whence it is shipped also to Britain and to American competitors. The Canadian plants are quite large by world standards. Transportation costs afford some degree of protection. The Board recommends continuation of the existing rates of Free and $12\frac{1}{2}$ p.c. under item 242, thus maintaining the existing margin of preference.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.26 Tin oxides (stannous oxide and stannic oxide)	Free	15	25

The tin oxides are not known to be made in Canada; most of our supplies are imported from Britain and some from the United States of America. In 1963, imports amounted to 53,000 pounds valued at about \$67,000; they are entered under tariff item 208r as oxides of tin at rates of Free, B.P., and 15 p.c., M.F.N. The only users who made representations urged continuation of the existing rates, a course which the Board recommends.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.27 Lead oxides; red lead and orange lead:			
(1) Other than the following	Free	15	25
(2) Red lead and orange lead	Free	$12\frac{1}{2}$	25

There are three oxides of lead: lead oxide, PbO , also known as litharge, massicot and lead monoxide; red lead, Pb_3O_4 , also known as orange lead, lead saline oxide, lead tetroxide and minium; lead dioxide, PbO_2 , also known as puce oxide and plumbic anhydride. There are three merchant producers of lead oxides in Canada operating four plants, and four producers of litharge who make it for captive use in six plants. The total productive capacity of lead oxides is 36,000 tons annually of which 26,000 tons is attributable to merchant production and 10,000 tons to captive production. Commercial production originally started in 1909 with one plant; the other three came into operation successively in 1946, 1955 and 1957. Since 1959 the Canadian market appears to have been about 16,000 tons annually valued at about \$4 million; of the domestic consumption about 15,000 tons is litharge and a little over 1,000 tons, red lead; a small amount of imported lead dioxide is also used. Of the market for litharge about 62 per cent is supplied by captive production, 33 per cent by merchant production and 5 per cent by imports, though imports represent about 14 per cent of the merchant production. Imports of red lead amount to 20 per cent of domestic consumption. Litharge imports from the United States are all or largely "battery" litharge; litharge imports from Britain are largely for general commercial use. In the last two or three years Mexico has become the major supplier of imported litharge because of substantially lower prices. Red lead imports are largely from Britain. Exports are quite small.

In its discussion of zinc oxides (Recommended Item 28.19) the Board mentions the effect of zinc prices on Canadian production. A very similar situation exists in the pricing of lead metal which constitutes about 90 per cent of the cost of litharge and red lead.

At present litharge is entered generally free of duty, for the manufacture of battery plates under tariff item 241; at Free and 15 p.c. under tariff item 241a; red lead is entered at Free and 12½ p.c. under tariff item 242. The merchant producers sought rates of 15 p.c. and 20 p.c., other interests opposed change. The plea for increased rates was largely based on the circumstance that price of pig lead is higher in Canada than in Britain. Even were the effect of the proposal to exclude all imports it would give the domestic producers an additional market for less than 1,000 tons with a value of about \$275,000 and their excess capacity is about 21,000 tons; in fact the proposed rates would not exclude Mexican imports nor British imports into British Columbia and Newfoundland. Moreover it appears that some of the imports of litharge and red lead are of grades not produced in Canada. Significant increases in rates of duty, if reflected in prices could well lead to increased captive production, a procedure apparently considered economic by users even under the prevailing rates of duty. The great threat to domestic production is the emergence of Mexican supplies of litharge at about 35 per cent less than the Canadian price and even lower than the cost in Canada of pig lead, the raw material. The rates required for the effective protection of Canadian production would be so high as to be disruptive to the users. The Board is recommending continuation of the existing rates: Free and 15 p.c. for litharge and Free and 12½ p.c. for red lead and orange lead.

Lead dioxide, the other product of this Recommended Item, is dutiable under tariff item 208t at Free and 15 p.c., rates which the Board recommends.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.28 Hydrazine and hydroxylamine and their inorganic salts; other inorganic bases and metallic oxides, hydroxides and peroxides:			
(1) Other than the following	Free	15	25
(2) Antimony oxides	Free	12½	25
(3) Molybdenum oxides	10	15	25
(4) Nickelous oxide	10	15	25
(5) Zirconium oxide	Free	5	15

This Recommended Item reproduces the words of Brussels heading 28.28; in the Brussels Nomenclature, the heading is intended to cover hydrazine and hydroxylamine and their inorganic salts and all the remainder of sub-chapter IV on inorganic bases and metallic oxides, hydroxides and peroxides.

Antimony pentoxide and antimony tetroxide are now entered under tariff item 242 at Free, B.P., and 12½ p.c., M.F.N., and the Board is recommending no change.

Antimony trioxide (antimonous anhydride) is not made in Canada. Imports are mainly from Britain, the United States and China with small quantities from Belgium, Luxembourg and West Germany. The domestic market has grown rapidly reaching 710,000 pounds in 1964 valued at \$331,000. The product is now entered at rates of Free and 12½ p.c. under tariff item 242 though about 90 per cent of the most-favoured-nation imports are entered free of duty under end-use tariff item 921. As for the other oxides of antimony, the Board recommends rates of Free, B.P., and 12½ p.c., M.F.N.

The beryllium and the bismuth oxides and hydroxides, now entered at Free and 15 p.c. under tariff item 208t, were not the subject of any representations and the Board recommends no change in rates.

Cadmium oxide, not made in Canada in its chemical form, appears to be imported to the extent of about \$25,000 annually whereas there are imports of cadmium pigments to a value of about \$250,000 annually. In general, the product as a chemical is entered under tariff item 208t at Free, B.P., and 15 p.c., M.F.N. or as a colour, under tariff item 246 at rates of 12½ p.c. and 17½ p.c.; it may qualify for free entry under end-use items 216e, 246c or 921. No representations were made concerning cadmium hydroxide which is also classified in tariff item 208t, subject to end-use item 921. For both, the Board is recommending rates of Free and 15 p.c.

Calcium oxide and calcium hydroxide, in the pure state as obtained by calcining precipitated sodium carbonate, are in heading 28.28 of the Brussels Nomenclature. Calcium oxide in the form of quick lime (also known as burnt lime or fluxing lime), falls in heading 25.22 as does calcium hydroxide in the form of slaked lime (also known as lime hydrate or caustic lime). In the existing Tariff the impure forms of calcium oxide are classified as "lime" in an

Extract from tariff item 711; the purer forms are entered under tariff item 208t. Recommended Item 28.28 covers only the oxide and hydroxide in the pure form as obtained by calcining precipitated calcium carbonate. The market in Canada for the pure forms is quite small and for them the Board is recommending continuation of the rates of Free and 15 p.c.

Among the copper oxides and hydroxides, only two chemicals were brought to the attention of the Board: cupric oxide and cuprous oxide, neither of which is produced domestically. The cupric oxide is used in very small quantities. Both copper oxides are imported principally from Britain, but also from the United States; in 1963 imports amounted to 542,000 pounds valued at \$224,000; they declined to 320,000 pounds valued at \$167,000 in 1964; subject to end-use provisions, they are entered under tariff item 208r at Free and 15 p.c. Entry of cupric oxide under end-use item 488 is also reported. No representations were made concerning other copper oxides or copper hydroxides. The Board recommends continuation of the existing rates under 208r of Free and 15 p.c.

Germanium dioxide, germanium oxide, hydrazine, hydrazine hydrate (subject to end-use item 863), hydrazine hydrochloride, hydrazine monohydrobromide, hydrazine monohydrochloride, hydrazine sulphate, hydroxammonium chloride, hydroxammonium sulphate, hydroxammonium nitrate and hydroxylamine are now entered at Free and 15 p.c. under tariff item 208t and the Board recommends continuing these rates.

Lithium hydroxide was not produced in Canada until 1963; it is principally used in Canada in the manufacture of lubricant greases. A foreign-producing company estimated the Canadian market in 1961 at 70,000 to 100,000 pounds annually; the market is increasing and in 1963 the imports reached a value of \$70,000. The United States is the principal source of supply but there are imports from Britain. There has been a substantial decline in the American price: from 72 cents per pound in 1961 to 54 cents in 1964. The product is now entered under item 208t at Free and 15 p.c. and under end-use item 220a, to make additives for lubricating oil, at Free and 5 p.c. There were proposals for free entry under both Tariffs, maintenance of the existing rates and for rates of 15 p.c. and 20 p.c. when the product became made in Canada. The Board recommends the existing rates of Free, B.P., and 15 p.c., M.F.N.

Manganese hydroxide, manganese saline hydroxide and manganic hydroxide were not the subject of any representations. They are now entered under tariff item 208t at Free and 15 p.c., rates which the Board recommends.

Mercuric oxide, a chemical of little commercial importance, was mentioned only by the Canadian Pharmaceutical Manufacturers Association; the Association sought continuation of the rates of Free and 15 p.c. now prevailing under item 208t; the product may also be entered, as a colour, under tariff item 246 at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. The Board recommends rates of Free and 15 p.c.

The molybdenum products in this Recommended Item comprise the dioxide, hydroxide and the trioxide. Molybdenum compounds are

used principally because of their molybdenum content. Molybdenum trioxide is the most important commercially; until 1963 there was only one producer in Canada; since 1963 several other producers have started production of other molybdenum products. Expressed in molybdenum content, annual shipments of molybdenite concentrates and molybdic oxide amounted to about 600 tons, valued at about \$1.8 million in 1964; excluding molybdenum wire and molybdenum metal, the Canadian consumption of molybdenum in 1963 was about $1\frac{1}{4}$ million pounds (625 tons) with a value of about \$2.0 million - of these figures, the molybdenum trioxide and ferromolybdenum account for 90 per cent, and the trioxide alone for about two-thirds. About 95 per cent of the various forms of molybdenum is used in the production of ferrous and non-ferrous alloys. In the three years, 1961-63, between 20 and 30 per cent of the Canadian demand for molybdenum trioxide was supplied by imports which come only from the United States; virtually all imports are entered free of duty under tariff item 208g for use in making steel. Ferro-molybdenum imports come from both Britain and the United States of America. The producer of molybdenum trioxide exports all the molybdenite concentrates in excess of what it processes further; it also exports some of its production of molybdenum trioxide; these exports in the period 1955-59 were to Britain, Italy, the Netherlands, Austria, Japan, Australia and, in 1958 only, to the United States; in 1959, the total was 3.75 million pounds valued at \$3.17 million. The use of molybdenum trioxide has increased considerably in the past few years though imports have declined. Though the Canadian producer expressed apprehension about competition from the United States it appears to compete in foreign markets; the principal competition seems to be more in ferromolybdenum than in the trioxide. Apart from the free entry provision for steel manufacture in tariff item 208g, the molybdenum oxides: dioxide, trioxide and sesquioxide, are now entered under tariff item 246 at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c., and the Board recommends rates of 10 p.c. and 15 p.c.

Molybdenum hydroxide, on which no representations were made, is now entered under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N., rates which the Board recommends.

The nickel products involved are nickel hydroxide, nickelic oxide or nickel sesquioxide, and nickelous oxide. The first two were not the subject of any representations and appear unimportant; nickel hydroxide is entered at rates of Free and 15 p.c. under item 208t and nickelic oxide, at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under item 246; the Board recommends rates of Free and 15 p.c. for both.

Nickelous oxide is produced in Canada; it is now entered at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under tariff item 246 or at rates of Free and 20 p.c. under end-use item 246b; a consumer, presumably for solidarity and conformity, urged rates of 15 p.c. and 20 p.c. because it was produced in Canada; the Canadian producer made no representations and it appears that a large proportion of its production is exported to the United States. In line with its recommendation for a number of products in somewhat similar circumstances the Board recommends rates of 10 p.c. and 15 p.c. for nickelous oxide.

The tin hydroxides (metastannic acid and stannic acid), subject to end-use item 316b which would remain unchanged, tungstic trioxide (tungstic acid), tungstic oxide, vanadium hydroxide and

vanadium oxides were not the subject of representations; with the exception of the vanadium oxides now entered under tariff item 246 at rates of 12½ p.c. and 17½ p.c. or under end-use item 490a, free of duty, all the remaining products are entered under item 208t or item 216 at Free, B.P., and 15 p.c., M.F.N. For the entire group the Board recommends rates of Free and 15 p.c.

Zirconium oxide (zirconia) appears to be made in Canada though the producers made no representations to the Board; imports have been increasing and reached a value in excess of \$60,000 in 1963; they are nearly all from the United States. At present the product is entered under tariff item 246a at Free and 5 p.c.; the Board recommends continuation of these rates.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.29 Fluorides; fluorosilicates, fluoroborates and other complex fluorine salts:			
(1) Other than the following	Free	15	25
(2) Cupric fluoroborate	10	15	25
(3) Lead fluoroborate	10	15	25
(4) Potassium fluoroborate	10	15	25
(5) Potassium titanium fluoride	10	15	25
(6) Sodium fluoroaluminate (synthetic cryolite)	Free	Free	Free
(7) Sodium fluoroborate	10	15	25
(8) Stannous fluoroborate	10	15	25

A number of products of this Recommended Item are now classified in tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N.; concerning some of these, no representations were made or very little information is available. These include: aluminum fluorosilicate, aluminum potassium sodium fluoride, ammonium antimony fluorosulphate, ammonium bifluoride, ammonium fluoride, ammonium fluoroborate, antimony fluoride, antimony pentafluoride, barium fluoride, barium fluorosilicate, beryllium oxyfluoride, cadmium fluoroborate, calcium fluoride, calcium fluoroborate, calcium fluorosilicate, chromium fluoride, chromium fluoroborate, chromium fluorosilicate, cobaltic fluoride, cobaltous fluoride, cobaltous fluoroborate, copper fluoride, copper fluorosilicate, ferrous fluoroborate, fluorogermanates, fluoroniobates, fluorophosphates, fluorostannates, fluorotantalates, fluorotitanates, fluorozirconates, iron fluorosilicate, lead fluoride, lead fluorosilicate, lithium fluoride, magnesium fluoride, magnesium fluorosilicate, manganous fluoride, nickel fluoroborate, nickelous fluoride, potassium bifluoride, potassium cryolite, potassium fluoride, potassium fluorosilicate, potassium zirconium fluoride, sodium bifluoride, sodium fluorosilicate, sodium titanium fluoride, stannous fluoride, zinc fluoride, zinc fluoroborate and zinc fluorosilicate. A number of these are also subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35) for pesticides and a few to the end-use provisions of tariff items *219h (which would remain unchanged) and 246c. For all these products the Board is recommending rates of Free and 15 p.c.

Aluminum fluoride is produced in Canada by the Aluminum Company of Canada (Alcan) in quantities sufficient for its captive use and the merchant market. There are few available data on the product except that Canadian consumption is valued in millions of dollars. It is now entered under tariff item 208t at rates of Free, B.P. and 15 p.c., M.F.N. The producer sought continuation of these rates and the Board so recommends.

Cupric fluoroborate, lead fluoroborate, potassium fluoroborate, potassium titanium fluoride, sodium fluoroborate and stannous fluoroborate are all made in Canada by Nichols Chemical Co. Ltd. only. The market is small and supplied almost entirely by Nichols. There are no exports and such data as are available indicate that imports ceased when Nichols began producing. The products are now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. and the producer urged that there be no change. The Board in line with its recommendations for products in similar circumstances, recommends rates of 10 p.c. and 15 p.c.

Sodium fluoride was said not to be produced in Canada. It is imported from Britain and the U.S.A. The Canadian market has been growing. In 1963 there were imports of 447 tons valued at \$111,000. Subject to the end-use provisions of tariff items 219a (Recommended Item 38.11), 219h (which would remain unchanged) and 791 (Recommended Item R-35) the product is entered, under tariff item 208t, at rates of Free, B.P., and 15 p.c., M.F.N., and the Board recommends that these rates be continued.

Sodium fluoroaluminate (synthetic cryolite or sodium aluminum fluoride) is included in this Recommended Item and no representations were made to the Board concerning this product. Cryolite is now entered free of duty under all Tariffs under tariff item *334. For mere uniformity of nomenclature the Board is relocating synthetic cryolite in this Recommended Item with the same free entry.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.30 Chlorides and oxychlorides:			
(1) Other than the following	Free	15	25
(2) Aluminum chloride	Free	10	20
(3) Antimony chlorides and oxychlorides	Free	Free	Free
(4) Bismuth oxychloride	10	15	25
(5) Mercuric chloride, other than A.R. grade	10	15	25
(6) Stannous chloride	Free	10	20

Within the broad coverage of this Recommended Item, about two dozen products were the subject of specific discussion before the Board; these products represent a trade with an annual value of some seven million dollars; for most of them, continuation of the existing rates was urged but for four of them, the combined market for which exceeds 90 per cent of the total in the Recommended Item, increased rates were sought.

Aluminum chlorhydrate, aluminum hydroxychloride, bismuth chloride, chromic chloride, chromium oxychloride, chromous chloride, cobalt chloride, copper hydroxychloride, copper oxychloride (also and more generally imported under tariff item 246), cupric chloride, cuprous chloride, lead hydroxychloride, lead oxychloride, manganous chloride, nickel chloride, and tin oxychloride are all entered under tariff item 208t, as chemicals not produced in Canada, at rates of Free, B.P., and 15 p.c., M.F.N.; stannic chloride, under present administrative practice, appears to be classified in tariff item 208l at rates of Free and 10 p.c. or in end-use item 246c, free of duty. For all these products the Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Aluminum chloride is available in an anhydrous form and as a 50.3 per cent solution; they are not economically interchangeable one for the other.

In the anhydrous form there have been three producers since 1960. The market appears to be increasing; in 1962 it was over four million pounds valued at about \$500,000; in the same year imports were less than 5 per cent of Canadian consumption and all from the United States of America.

Aluminum chloride solution is produced by only one firm in Canada. The producer estimated imports - all from the United States of America - at \$10,000 annually and called them an "important part" of the Canadian market. Because of the 49.7 per cent water content of the solution, long distance transportation is uneconomic.

Aluminum chloride, in both forms, is entered under tariff item 211a at Free, B.P., and 10 p.c., M.F.N. or under end-use item 921, free of duty. The producers proposed rates of 15 p.c. and 20 p.c. Though the producer urged the small size of the Canadian market as the major reason for the increase in rates, it appears that the principal competition in the anhydrous product is between Canadian producers. The producers of the anhydrous form now supply 95 per cent of domestic consumption. The domestic product in solution enjoys a competitive advantage arising out of the cost of transporting the water of solution. The Board is therefore recommending a continuation of the existing rates of Free, B.P., and 10 p.c., M.F.N., rather than free entry under both Tariffs, in order not to change the margin of preference.

Ammonium chloride, or sal ammoniac, is produced in Canada only by Canadian Industries Limited at Hamilton, Ontario; it is a co-product of sodium sulphite. Canadian production is limited to the powder and pellet forms and the producer imports the bar form from Britain; the plant capacity is sufficient to supply the Canadian market. In fact the producer does supply 90 to 95 per cent of the domestic market which appears to be about 2,500 tons annually valued at \$300,000. Because of technological changes, the use of the product in the manufacture of dry cell batteries, which accounted for close to 40 per cent of production in 1959, is likely to decline. Exports are also declining. They were between 400 and 650 tons annually from 1959 until 1962. In 1963, they totalled only 116 tons valued at \$12,000. Prices are lower in areas east of Toronto in order to meet German competition. Imports are largely from Britain, the United States of

America and Western Germany; they have been declining and are now quite negligible. Under tariff item 208j, the product is now imported at rates of Free and 25 p.c. The lone producer sought rates of 15 p.c. and 20 p.c., urging that because its plant produced four other products it would be anomalous to subject them to different rates. To the Board it appears that there might be equal anomaly in uniformity of rate based on common site of production - a view most producers would undoubtedly share were the same doctrine of uniformity to extend to prices also. The Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Antimony trichloride was the subject of representations before the Board only in relation to its use in making coloured pigments though it is also used for pharmaceuticals, for fireproofing textiles and as a catalyst in organic synthesis. It is not made in Canada and has no substitute in the manufacture of coloured pigments. Under item 208, it is now entered free of duty under all Tariffs. The Canadian Colour Makers Association proposed free entry, while not made in Canada, when for use in the manufacture of synthetic pigments, but rates of 15 p.c. and 20 p.c. when made in Canada. The Industry Committee opposed the introduction of the end-use criterion but otherwise supported the Association's proposal. The Board sees no reason for introducing the end-use criterion and it is recommending continued free entry under all Tariffs.

Antimony chloride basic (antimony oxychloride) is now entered at Free and 15 p.c. under tariff item 208t; antimony pentachloride and antimony trichloride are now free of duty under 208. In the circumstances the Board recommends free entry for the antimony chlorides and oxychlorides.

Barium chloride is not made in Canada and is imported from West Germany. It is used in the manufacture of pigments and for the purification of chemical process materials. It is now entered at Free, B.P., and 15 p.c., M.F.N., under item 208t. As for antimony chloride, the Canadian Colour Makers Association proposed free entry, while not made in Canada, when for use in the manufacture of synthetic pigments, but rates of 15 p.c. and 20 p.c. when made in Canada. The only other representations were from the Industry Committee and the Electric Reduction Company, both of which opposed the introduction of the end-use criterion. The company proposed no change in existing rates while the product was not made in Canada but supported rates of 15 p.c. and 20 p.c. upon commencement of Canadian manufacture. The Board does not recommend the introduction of the end-use criterion for the benefit of only one of the users and recommends free entry under the British Preferential Tariff and a rate of 15 p.c. under the Most-Favoured-Nation Tariff, rather than free entry under both Tariffs, in order not to change the margin of preference.

Bismuth oxychloride is now entered as an unenumerated product under tariff item 711 at rates of 15 p.c. and 20 p.c.; no statistics are available on this product. It is ruled made in Canada. For it the Board recommends rates of 10 p.c., B.P., and 15 p.c., M.F.N.

Calcium chloride is by far the most important product of the Recommended Item in volume of trade. It is a co-product of sodium carbonate for which the Board is recommending rates of 10 p.c. and 15

p.c. in Recommended Item 28.42. There are three producers in Canada. In 1960, the market was about 150,000 tons annually with a value of about \$5 million; about 20 per cent of the market is supplied by imports, most of which are imported by the producers themselves because they are unable to supply the total market, even though their capacity is fully utilized. Imports from British preferential sources are negligible as are all exports. Because of a seasonal peak requiring about 60 per cent of shipments in the four summer months, storage costs place upon the Canadian producer a burden from which his competitor in the United States of America is freer as climatic conditions in that country do not bring about as marked a seasonal peak requirement. One of the Canadian producers has a freight advantage over producers in the United States of America throughout most of Ontario and Quebec, an area which represents about two-thirds of the Canadian market. The producers sought rates of 15 p.c. and 20 p.c., as compared with Free and 15 p.c. under existing item 208d, Free and 8 p.c., the ad valorem equivalent of the specific rate in existing item 208a 1, and 17½ and 25 p.c. under item 208a 2 for packages of less than 25 pounds in weight; the Canadian Pharmaceutical Manufacturers Association supported the proposal of the producers and the Canadian Pulp and Paper Association opposed any increase in tariff rates. The producers urged the higher costs of small scale production because of the small size of the Canadian market together with the handicap of seasonal peak sales in summer; with increased protection it was urged that a producer could increase his share of the Canadian market. It is difficult to accept this conclusion without some reserve because the imports, which fill 20 per cent of the market requirements, are mostly made by the producers themselves who sell all they make. The Board is recommending rates of Free, B.P., and 15 p.c., M.F.N., without differentiation in package sizes and without the end-use provision of existing item 208d for road-treating purposes.

Neither ferric nor ferrous chloride is made in Canada. All, or nearly all, imports are from the United States. The only representation made to the Board was for the continuation of the existing rates of Free and 15 p.c. under tariff item 208t as long as the products are not made in Canada with a change to 15 p.c. and 20 p.c. when they become so made. Most of the imports are used by municipalities in sewage treatment. The Board recommends continuation of the existing rates of Free and 15 p.c., rather than free entry under both Tariffs, in order to maintain the margin of preference.

Lead chloride appears to be imported only from Britain; it is not made in Canada and the domestic market is very small. Representations before the Board urged continuation of the rates of Free and 15 p.c. now prevailing under item 208t. The Industry Committee argued that these rates should be changed to 15 p.c. and 20 p.c. if Canadian production were commenced; no information is available to the Board to indicate the suitability of the 15 p.c. and 20 p.c. rates. The Board's recommendation is for continuation of the present rates of Free and 15 p.c.

Lithium chloride, not now made in Canada, had known imports of about \$2,000 in 1959 and 1960; it is imported from Britain and is entered under item 208t at Free, B.P., and 15 p.c., M.F.N. As for lead chloride, the Board recommends continuation of these rates.

Magnesium chloride is imported from the United States for the manufacture of magnesium metal and of magnesium oxychloride cements; it is not made in Canada. In 1959, sales of the product were less than \$10,000 in value, or about 300,000 pounds. It is entered, under item 208t, at Free, B.P., and 15 p.c., M.F.N. Representations were made to continue these rates, with the usual plea for 15 p.c. and 20 p.c. in the event of Canadian production. The Board recommends continuation of the existing rates, rather than free entry under both Tariffs, in order to maintain the margin of preference.

Mercuric chloride, other than A.R. grade, is produced in Canada by only one company; it has sufficient capacity to supply the Canadian market. The annual value of the market is less than \$20,000. Imports appear to supply half of the domestic market; they are entered under tariff item 711 at 15 p.c. and 20 p.c., except for the analytical reagent grade which is dutiable at rates of Free, B.P., 15 p.c., M.F.N., under tariff item 208t. The Board's recommendation is for rates of 10 p.c. and 15 p.c. except for the A.R. grade for which it recommends rates of Free, B.P., and 15 p.c., M.F.N.

Mercurous chloride, though formerly ruled to be made in Canada is no longer so ruled; it is dutiable under tariff item 208t at rates of Free and 15 p.c. The Canadian market for mercurous chloride appears to be smaller than that for mercuric chloride. The Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Stannous chloride (tin crystals) is now entered under tariff item 2081 at rates of Free, B.P., and 10 p.c., M.F.N. or end-use item 921 free of duty; continuation of the rates of Free and 10 p.c. is recommended by the Board.

Titanium tetrachloride, not made in Canada, is imported under tariff item 208t, at Free and 15 p.c., and under tariff item 921, free of duty under both Tariffs, when it is used in the manufacture of synthetic resins or plastics, a large proportion of its uses. Imports, partly from Britain, reached a value of \$105,000 in 1962 and \$110,000 in 1963. Pleas were made for continuation of entry at Free and 15 p.c. without qualification as to Canadian production and also for rates of 15 p.c. and 20 p.c. upon commencement of Canadian production. The Board recommends rates of Free and 15 p.c.

Zinc chloride is made in Canada by only one producer, which is capable of supplying the total domestic consumption of about 2,400 tons annually on an anhydrous basis; the company makes the product only in solution whereas there is a domestic requirement for the anhydrous form as well; the greater part of the production is used captively. The commercial market does not appear to be in excess of \$150,000 annually. The producer estimates imports at about 7 per cent of domestic consumption; imports are largely from Britain but also from the United States of America. The product is now entered free of duty, British Preferential, and at 20 p.c., Most-Favoured-Nation, under tariff item 208s; the producer urged maintenance of the most-favoured-nation rate of 20 p.c. and a British preferential rate of 15 p.c. for conformity of tariff structure and to secure for the producer a greater share of the domestic market; at the time of the hearing the producer was supplying 93 per cent of the domestic market and the imports were apparently of the anhydrous form not made by the producer, close to half of which bore the 20 p.c. duty because they

were from the United States of America. In such circumstances the Board recommends rates of Free and 15 p.c. for the product.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.31 Chlorites and hypochlorites:			
(1) Other than the following	Free	15	25
(2) Calcium hypochlorite	Free	5	10
(3) Sodium hypochlorite	10	15	25

Subject to any end-use item, aluminum chlorite, ammonium hypochlorite, barium hypochlorite, lithium hypochlorite (reported by the Javex Company to be competitive with some of its bleaching products), potassium hypochlorite, sodium chlorite and zinc hypochlorite are all chemicals now entered under tariff item 208t at rates of Free and 15 p.c.; very little data is available on these products and the Board recommends continuation of the rates of Free and 15 p.c.

Calcium hypochlorite in its higher strength of chlorine is used as a bleach for textiles and for pulp and paper, in the production of chemicals and in sanitation; in its lower strength of chlorine, commonly though improperly termed chloride of lime, it is mainly used in rural sanitation and in the production of Javel Water. It is not produced in Canada. In 1964 imports were 2.8 million pounds valued at \$551,000. The product is now entered, under tariff item 208a, at rates of Free and 15 cents per 100 pounds when in packages of not less than 25 pounds weight and at rates of 17½ p.c. and 25 p.c. when in packages of less than 25 pounds weight; the 15 cents specific rate is equivalent to an ad valorem rate of 5 p.c. Virtually all M.F.N. imports are entered under the first part of tariff item 208a at 15 cents per 100 pounds. A large consumer urged that the rate of 15 cents per hundred pounds be continued, the pulp and paper interests opposed any increase in rates, Javex Company sought rates of 15 p.c. and 20 p.c. because of competition with its bleaches and Imperial Chemical Industries (I.C.I.) sought conversion of the present most-favoured-nation rate of 15 cents per 100 pounds into an ad valorem rate. I.C.I. also urged that calcium hypochlorite containing not more than 40 per cent available chlorine be at rates of Free, B.P., and 5 p.c., M.F.N. and that the present rates be retained when in packages of less than 25 pounds weight. The Board recommends rates of Free and 5 p.c. without packaging distinction.

Sodium hypochlorite is made in Canada by several producers. In 1962, the value of plant shipments was over \$12 million; the bulk of consumption is in retail packages with a low content of available chlorine; because of its low concentration it is expensive to ship. Imports are small; from 1956 to 1962 they were less than one per cent of the value of shipments by Canadian plants. Freight was represented as an important factor in excluding imports. The Javex Company voiced apprehension about the overflow of United States advertising in Canada which could induce the Canadian housewife to purchase such imported products because of the advertising. In the face of shipping costs, tariff protection and domestic advertising, it is far from clear that this United States advertising is sufficient to capture any

appreciable share of the domestic market. Subject to the end-use provisions of tariff item 791 (Recommended Item R-35), sodium hypochlorite, in solution is entered under tariff item 210i and when not in solution, if it were imported, would be subject to entry under tariff item 711; in both cases the rates would be 15 p.c. and 20 p.c., rates which the Javex Company, Standard Chemical Company and Fyon & Fyon Limited sought to have continued. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.32 Chlorates and perchlorates:			
(1) Other than the following	Free	15	25
(2) Potassium chlorate	10	15	25
(3) Sodium chlorate	Free	10	25

Ammonium chlorate, ammonium perchlorate (subject to end-use item 758), barium chlorate, barium perchlorate, chromium chlorate, copper chlorate, lead perchlorate, potassium perchlorate, sodium perchlorate and strontium chlorate were not the subject of representations before the Board. They are now entered under tariff item 208t at rates of Free and 15 p.c. and the Board recommends continuation of these rates.

Potassium chlorate is made in Canada by Electric Reduction Company only. The market appears to exceed one million pounds with a value of about \$150,000; at least 90 per cent of Canadian consumption is for the manufacture of matches. About 10 per cent of the market was said to be supplied by imports, all from the U.S.A. and Switzerland. Potassium chlorate is now entered at rates of Free, B.P. and 15 p.c., M.F.N., either under tariff item 208t or tariff item 209d. The producer urged rates of 15 p.c. and 20 p.c. though the product was not ruled to be made in Canada. The Consolidated Mining and Smelting Company opposed any recommendation tending to retaliatory action by others or to increases in Canadian production costs. The Board recommends rates of 10 p.c. and 15 p.c.

Sodium chlorate is made in Canada by several producers. In 1963 Canadian consumption was about 80 million pounds valued at about \$6.0 million; about 90% was used in the manufacture of wood-pulp; in the late 1950's a great deal was used in refining uranium ore; there is also a small herbicide use. No imports have been recorded since 1959; there are small exports. Subject to the end-use provisions of tariff item 791 (Recommended Item R-35) imports would be entered under tariff item 210 at Free, B.P., and 12½ p.c., M.F.N. Two producers urged continuation of these rates. Two consumers urged no increase in rates. The market is expanding, there are exports and protection was represented as diluted by drawback provisions. In these circumstances the Board recommends rates of Free and 10 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.33 Bromides, oxybromides, bromates and perbromates, and hypobromites	Free	15	25

This Recommended Item includes ammonium bromide, barium bromide, cadmium bromide, calcium bromide, copper oxybromides, cupric bromide, cuprous bromide, lithium bromide, magnesium bromide, potassium bromate, potassium bromide, potassium hypobromite, sodium bromate, sodium bromide, strontium bromide and zinc bromide. All these products, as chemicals of a kind not produced in Canada, are entered under tariff item 208t. On a few, some data were brought to the Board's attention and are set out elsewhere in the Report. For all the products of this Recommended Item the Board recommends continuation of the rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.34 Iodides, oxyiodides, iodates and periodates:			
(1) Other than the following	Free	15	25
(2) Calcium iodate	10	15	25
(3) Manganese iodide	10	15	25
(4) Potassium iodide	10	15	25
(5) Sodium iodide	10	15	25

Many products of this Recommended Item were not the subject of representations and the Board has but little data on them; of these ammonium iodide, antimony iodide, antimony oxyiodide, barium iodate, bismuth iodide, calcium iodide, copper oxyiodide, iron iodide, lead iodide, lead oxyiodide, lithium iodide, mercuric iodide, mercurous iodide, potassium hydrogen di-iodate, potassium iodate, sodium iodate, sodium periodates, strontium iodide, titanium tetraiodide and zinc iodide are entered under tariff item 208t at rates of Free and 15 p.c. as chemicals of a kind not produced in Canada. For them the Board recommends rates of Free and 15 p.c.

Two other products, manganese iodide and sodium iodide, though ruled to be made in Canada, were not the subject of representations of substance before the Board. Both are subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. For them the Board recommends rates of 10 p.c. and 15 p.c.

Calcium iodate has been made in Canada since 1958; its principal use is in animal nutrition. In 1961 and 1962 there were no imports which suggests that domestic consumption is now supplied entirely from domestic production. Calcium iodate is now subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. which the two producers sought to have continued. The Board recommends rates of 10 p.c. and 15 p.c.

Potassium iodide is produced in Canada and has a wide variety of uses; imports were estimated in 1961 to be about 10 per cent of a market ranging between \$45,000 and \$90,000 annually. Like calcium iodate, the product is subject to rates of 15 p.c. and 20 p.c. under tariff item 711 and the producer sought their continuation. As for calcium iodate the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.35 Sulphides; polysulphides:			
(1) Other than the following	Free	15	25
(2) Sodium sulphide	Free	12 $\frac{1}{2}$	20

Ammonium hydrogen sulphide, antimony pentasulphide, antimony trisulphide artificial, barium sulphide, cadmium sulphide, calcium polysulphide, calcium sulphide, copper sulphides, iron sulphides, lead sulphide, mercury sulphides artificial, potassium polysulphide, potassium sulphides, sodium polysulphide, strontium sulphide, tin sulphides, artificial and zinc sulphide are all products in this Recommended Item upon which no representations of substance were made to the Board; they are now entered under tariff item 208t at rates of Free and 15 p.c.; when for use as a colouring material, cadmium sulphide is also entered under tariff items 246, 246b or 246c. For all these chemicals the Board recommends rates of Free and 15 p.c.

Molybdenum disulphide is made in Canada in small quantities though it has not been ruled so to be made; it is used mainly in the manufacture of additives for lubricating oils for which there is a special end-use provision in tariff item 220e; it is also used by the rubber industry in the manufacture of brake linings and the rubber interests sought free entry under both Tariffs until the product was ruled to be made in Canada when rates of 15 p.c. and 20 p.c. would apply. At present, subject to end-use item 220e, molybdenum disulphide is entered under tariff item 208t at rates of Free and 15 p.c. which are the rates the Board is recommending.

Sodium hydrogen sulphide has been produced in Canada in relatively small quantities by one producer for one consumer; however it is not ruled to be made in Canada. There have been imports from Britain and the U.S.A.; imports in 1963 were valued at \$190,000. The Board recommends continuation of the rates of Free and 15 p.c. now applicable to the product under item 208t.

Sodium sulphide is not produced in Canada; in 1964 there were imports of 3.6 million pounds valued at \$213,000; of these imports 99 per cent came from the United States and the balance from Britain and Western Germany. About half of the domestic consumption is in the tanning of leather. The Primary Textiles Institute and the Tanners Association of Canada sought free entry of the product, though the Institute qualified this proposal by urging rates of 15 p.c. and 20 p.c. when the product was ruled to be made in Canada. Sodium sulphide is now entered under tariff item 210 at Free, B.P., and 12 $\frac{1}{2}$ p.c., M.F.N., and the Board, instead of recommending free entry under both Tariffs, is recommending that the existing rates be continued to avoid a change in margin of preference.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.36 Dithionites, including those stabilized with organic substances; sulfoxylates:			

28.36
(Cont'd)

	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
(1) Other than the following	Free	15	25
(2) Sodium dithionite	Free	Free	Free
(3) Sodium formaldehyde sulphoxylate	Free	Free	Free
(4) Zinc dithionite	Free	Free	Free
(5) Zinc formaldehyde sulphoxylate	Free	Free	Free

The chemicals in this Recommended Item include: calcium dithionite, magnesium dithionite, potassium dithionite, sodium dithionite, sodium formaldehyde sulphoxylate, zinc dithionite and zinc formaldehyde sulphoxylate. With the exception of sodium dithionite and that of zinc dithionite, these chemicals appear to have rather limited commercial importance.

Sodium dithionite appears to be used mainly in the pulp and paper, synthetic rubber and textile industries. It is not made in Canada and imports which reached 5 million pounds valued at \$1.1 million in 1964 are entered under tariff item 203a, free of duty under all Tariffs. The Board recommends continued free entry.

Sodium formaldehyde sulphoxylate and zinc formaldehyde sulphoxylate, not produced in Canada, are entered, under item 203a, free of duty under both Tariffs and the Board recommends continued free entry.

Zinc dithionite was not made in Canada in 1963, though plans were announced in the Press to establish a plant for its production by the end of 1964 in Cornwall, Ontario. In recent years the market for this product has expanded to quite significant proportions: in 1963, imports reached 4.6 million pounds valued at \$960,000; about two-thirds of the imports were from the United States and one-third, from Britain. The principal use for zinc dithionite appears to be for bleaching pulp and, at the time of the hearing in 1961, only pulp plants in British Columbia were known to use the product. The imports are entered free of duty under all Tariffs under tariff item 203a and the Board is recommending continued free entry.

Dithionites containing a stabilizer are now classified in tariff item 220a(i) at rates of 15 p.c. and 20 p.c. except for the end-use provisions of tariff item 851, which would remain unchanged, the other products of this heading are now classified in tariff item 208t at rates of Free and 15 p.c. The Board recommends no change in the existing rates of Free, B.P., and 15 p.c., M.F.N.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.37 Sulphites and thiosulphates:			
(1) Other than the following	Free	15	25
(2) Sodium bisulphite (sodium hydrogen sulphite)	Free	12½	20

28.37 (Cont'd)		<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
	(3) Sodium metabisulphite	Free	12 $\frac{1}{2}$	20
	(4) Sodium sulphite, neutral	Free	12 $\frac{1}{2}$	20
	(5) Sodium thiosulphate, other than anhydrous	10	15	25

Many products of this Recommended Item are now entered under tariff item 208t at rates of Free and 15 p.c.; they include aluminum thiosulphate, ammonium sulphite, ammonium thiosulphate, barium thiosulphate, calcium dihydrogen disulphite, calcium sulphite neutral, calcium thiosulphate, chromium hydrogen sulphite, lead thiosulphate, magnesium sulphites, potassium hydrogen sulphite, potassium metabisulphite, potassium sulphite neutral and zinc sulphite. The market for all these products combined is estimated at less than \$50,000 annually and no representations of substance were made to the Board concerning them. For all these products the Board is recommending continuation of the existing rates of Free, B.P., and 15 p.c., M.F.N.

Sodium bisulphite (sodium acid sulphite) and sodium metabisulphite are very closely related in their chemical properties and uses; so close is the relationship that, with the laxity of usage characteristic in commerce, the designation of sodium bisulphite is often applied to both chemicals. The principal use of each chemical is as a source of sulphur dioxide. Since 1958 there has been no Canadian production of these chemicals. In 1963, the combined imports of the two products exceeded 3 million pounds valued at almost \$150,000 and came largely from the United States of America, Germany and Britain. In 1964, imports were about half those of 1963 and consisted only of sodium bisulphite. Apart from the end-use provision in tariff item 409f, which would remain unchanged, both products are now entered, under tariff item 210, at Free and 12 $\frac{1}{2}$ p.c. The Primary Textiles Institute proposed free entry under Both Tariffs until the product was ruled to be made in Canada; other consumers merely opposed increases in rates. The Board recommends continuation of the existing rates of Free and 12 $\frac{1}{2}$ p.c.

Sodium sulphite, neutral, is made in Canada by one plant of Canadian Industries Ltd. (C.I.L.); the production is by a process in which 56 units of sodium sulphite are produced with 44 units of ammonium chloride. There is also a form of captive production by three pulp and paper plants in which the sodium sulphite is produced and used without ever being isolated or withdrawn as such. C.I.L.'s production is limited by the market for the co-product ammonium chloride which is about 2,000 tons annually. If C.I.L. were to supply the entire domestic market for ammonium chloride in addition to its own captive consumption, it appears that the company could not economically expand its output of sodium sulphite. In 1960, the pulp and paper industry consumed over three-quarters of the total domestic requirements of over 10,000 tons of sodium sulphite. C.I.L. was not in a position to sell in bulk so the pulp and paper industry, a bulk user, either produces captively or imports its requirements. The remaining market plus the imports is about equivalent to C.I.L.'s economic productive capacity and appears to be served by the company's production. The company sought an increase from the existing rates of

Free and $12\frac{1}{2}$ p.c. under tariff item 210, to 15 p.c. and 20 p.c.; it supported this proposal upon the grounds that higher rates would encourage captive production which would in turn give the company a larger market for its production of sulphur dioxide, an essential raw material, and perhaps also for its caustic soda. However some three-quarters of the imports are used in the manufacture of exported products and are consequently entitled to a 99 per cent drawback; furthermore the 20 per cent duty would not offset the freight disadvantage of the company in shipping to British Columbia. It therefore seems that the increase proposed would benefit the company on less than 10 per cent of the imports while raising the cost for all importers. The other interests which made representations were consumers apprehensive of increased costs. The Board recommends continuation of the existing rates of Free and $12\frac{1}{2}$ p.c.

Sodium thiosulphate (sodium hyposulphite) is produced in Canada by one plant of C.I.L. and only in the hydrated form. The producer estimates the domestic market to be about 1,000 tons (anhydrous equivalent) annually with a value of about \$150,000. About 40 per cent of Canadian consumption is used in photographic processes where the anhydrous form is preferred. Imports over a recent five-year period have represented between 15 and 35 per cent of domestic use; those from the U.S.A. are generally of the anhydrous form and those from Britain, of the pentahydrate. The imports under end-use item 728 for tanners appear to be almost entirely from Britain. In 1963 most imports were of the anhydrous form. Apart from the end-use provisions of tariff item 728, the anhydrous sodium thiosulphate is entered under tariff item 208t, at Free and 15 p.c., and the hydrated form, under tariff item 711, at 15 p.c. and 20 p.c. The producer urged rates of 15 p.c. and 20 p.c. without distinction between forms, pointing out that the two forms were competitive and that a more protective tariff would give the Canadian producer a greater share of the domestic market. It now supplies between two-thirds and three-quarters of this market. Imports from Britain, mostly of the pentahydrate, are almost all to British Columbia and are now entered at 15 p.c., the rate proposed by the producer. The imports under end-use item 728 appear to be quite small. The real competition is from the anhydrous form, imported mostly from the U.S.A. and France, not produced in Canada and preferred by almost half the consumers. In these circumstances the Board is recommending the present rates of Free and 15 p.c. for the anhydrous form and rates of 10 p.c. and 15 p.c. for the pentahydrate.

Recommended Item

B.P. M.F.N. G.T.

28.38 Sulphates (including alums) and
persulphates:

(1) Other than the following	Free	15	25
(2) Aluminum ammonium sulphate, not calcined	Free	10	15
(3) Aluminum potassium sulphate, not calcined	Free	10	15
(4) Aluminum sodium sulphate, not calcined	Free	10	15

28.38
(Cont'd)

	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
(5) Aluminum sulphate, basic or normal	Free	10	15
(6) Barium sulphate	Free	10	15
(7) Calcium sulphate	Free	Free	Free
(8) Chromium potassium sulphate	Free	Free	10
(9) Chromium sulphate, basic	Free	Free	10
(10) Cobalt sulphate, other than pharmaceutical and A.R. grades	10	15	25
(11) Cupric sulphate	Free	10	15
(12) Ferrous sulphate			
(i) exsiccated U.S.P.	10	15	25
(ii) other	Free	10	15
(13) Lead sulphate, tribasic	10	15	25
(14) Magnesium sulphate, dried pure powder	10	15	25
(15) Nickel sulphate of technical or commercial grade	10	15	25
(16) Potassium sulphate containing, in the dry state, more than 52 per cent by weight of K ₂ O			
(i) not less than 99 per cent pure	10	15	25
(ii) less than 99 per cent pure	Free	Free	Free
(17) Sodium sulphate, acid (sodium hydrogen sulphate)	Free	Free	Free
(18) Sodium sulphate, neutral	10	15	25

Ammonium sulphate is not included in this Recommended Item; it is considered in Recommended Item 31.00. The Canadian market for the sulphates in the Recommended Item is about \$11.5 million annually; Canadian shipments are about \$10 million including exports of about \$2.0 million. Imports are estimated at \$3.0 million. Aluminum sulphate and sodium sulphate are the two commercially pre-dominant products: they represent about 70 per cent of the total domestic market all the known exports and only-one quarter of the imports; three-quarters of the imports are of chemicals not produced in Canada.

On a number of the products of this Recommended Item the Board received no representations or representations of little content in terms of fact or argument. They can be divided into two groups.

The first group includes products not produced in Canada and entered under item 208t at rates of Free, B.P., and 15 p.c., M.F.N.: aluminum ammonium sulphate calcined, aluminum potassium sulphate calcined, aluminum sodium sulphate calcined, ammonium ferric sulphate, ammonium persulphate, cadmium sulphate, chromium sulphate other than basic, copper sulphate tribasic, cuprous sulphate, ferric potassium sulphate, ferric sulphate, lead sulphate artificial, lithium sulphate, magnesium sulphate other than dried pure powder, manganous sulphate, mercuric sulphate, mercurous sulphate, mercury sulphate basic, nickel

sulphate other than technical or commercial grades, potassium hydrogen permonosulphate, potassium persulphate, sodium persulphate, stannous sulphate (also subject to the end-use provisions of Ex. 216, Ex. 711) strontium sulphate, thallium sulphate, titanium sulphate and zinc oxysulphate. It also includes ammonium chromium sulphate, now subject to entry free of duty under tariff item 203a. For all these products the Board is recommending rates of Free, B.P. and 15 p.c., M.F.N.

The second group includes products now entered under tariff items 208m, 208n, 212 or 240 at rates of Free, B.P., and 10 p.c., M.F.N.: aluminum ammonium sulphate not calcined, aluminum potassium sulphate not calcined, aluminum sodium sulphate not calcined, barium sulphate (blanc fixé) and ferrous sulphate other than exsiccated U.S.P. As for the first group, the Board recommends continuation of the existing rates: Free, B.P., and 10 p.c., M.F.N.

Aluminum sulphate for sale is produced in Canada by four companies in ten plants; it is produced also by one company for captive use. The market, a growing one, is about 100,000 tons, valued at nearly \$4.0 million. The product is available in both dry and liquid form. In its more important uses, the production of wet-strength fine papers and the purification of water supplies, the liquid form is more convenient than the dry and the added costs of transportation favour the production of the liquid form in smaller plants close to the users. Even in the dry form, freight costs are high: from Valleyfield to Nova Scotia they represent as much as 50 per cent of the price f.o.b. plant. Imports have been decreasing and now represent only about 3 per cent of the market; they are all in the dry form. Prior to 1961, imports exceeded exports but in 1961, 1962 and 1963, exports had a larger value than that of imports. Exports are mostly, if not all, to U.S.A. High transportation costs bring about exports and imports in certain areas not too remote from the United States border. Aluminum sulphate is now entered, under tariff item 212, at rates of Free and 10 p.c. One producer proposed rates of 15 p.c. and 20 p.c., a proposal based on smaller scale of operation, higher investment costs, higher costs of production and marketing and apprehension of foreign price declines. These disadvantages may readily be offset by transportation advantages, the smaller average though not maximum size of plant in the United States of America, the supply of over 95 per cent of the domestic market from domestic production and the fact that exports exceed imports. The Board recommends continuation of the existing rates of Free and 10 p.c.

Calcium sulphate, also known as satin white, in its artificial form is imported principally, not as the product itself but as a constituent of extended titanium dioxide pigment, from the U.S.A. to the extent of about 20,000 tons annually. The product is not made in Canada and appears not to be available commercially, at least not in a form suitable for producing the extended pigment. It is now entered as reagent grade under tariff item 208t at Free and 15 p.c. and as the colouring matter known as satin white, under tariff item 240 at Free and 10 p.c. The Board recommends free entry under all Tariffs.

Basic chromium sulphate, not produced in Canada, is largely imported from the U.S.A. and also from West Germany and Britain. It is entered under item 203a, free of duty under both Tariffs as adapted for dyeing or tanning. Imports are declining and amounted to 2,009 tons

valued at \$423,000 in 1964. The Board recommends continued free entry without the qualifying words.

Chromium potassium sulphate is not made in Canada and is entered free of duty under item 203a when adapted for dyeing or tanning. The Board recommends continued free entry without qualification.

Cobalt sulphate, at the time of the hearing in 1961, was made in Canada by one producer; one-half of the market of \$10,000 annually was supplied by imports. Most imports have been from Britain. Since 1961 there has been regular supply of cobaltic oxide, the cobalt sulphate producer's raw material; this was not always so. The producer does not make the pharmaceutical or chemical reagent grades; for these the Board is recommending rates of Free and 15 p.c. now applicable under tariff item 208t; for the other grades, though they are not, at the moment, ruled to be made in Canada, it recommends rates of 10 p.c. and 15 p.c.

There are several copper sulphates including cupric sulphate (blue vitriol), cuprous sulphate and tribasic copper sulphate. Cupric sulphate is made in Canada by at least one producer. Copper sulphate imports are almost entirely from the U.S.A. and Britain; they have declined sharply since 1959, the decline being more marked in the British imports. The copper sulphates, are now entered under a variety of tariff items: cuprous sulphate, under 208t at Free and 15 p.c., cupric sulphate undehydrated, under 208m at Free and 10 p.c., and cupric sulphate dehydrated under 208t at Free and 15 p.c. if of A.R. or C.P. grade and under 711 at 15 p.c. and 20 p.c. if of technical or commercial grade. End-use items 208c, 219a (both: Recommended Item 38.11), 219h which remains unchanged, 663b (Recommended Item R-31) and 791 (Recommended Item R-35) would also apply. Only consumer interests made representations to the Board, largely designed to prevent any increases in rates. The Board recommends continuation of the existing rates, Free and 15 p.c., for all the copper sulphates except cupric sulphate and Free and 10 p.c. for the latter.

Ferrous sulphate, exsiccated U.S.P., is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. as a chemical ruled to be made in Canada. For it the Board recommends rates of 10 p.c. and 15 p.c.

Lead sulphate, basic and tribasic, is made in Canada by one producer; however for the purposes of the Customs Tariff only tribasic lead sulphate is ruled to be made in Canada. The market for these two sulphates - a declining one - appears to have been less than 200,000 pounds, in 1962, with a value of about \$33,000. Almost all the producer's sales are in Ontario and Quebec. Basic lead sulphate is entered under tariff item 243 at rates of 15 p.c., B.P., and 20 p.c., M.F.N., and the artificial lead sulphate under item 208t at Free, B.P., and 15 p.c., M.F.N. Tribasic lead sulphate has been ruled made in Canada and is dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c. The domestic producer proposed rates of 15 p.c. and 20 p.c. for both. The producer referred to the advantage of European producers who could acquire lead, the principal raw material, more cheaply; this situation is discussed under lead oxides in Recommended Item 28.27 and under zinc oxide in Recommended Item 28.19.

The decline in sales is largely due to competition from more efficient pigmenting chemicals, especially titanium dioxide; the domestic producer supplies about 75 per cent of the market for the two chemicals and, with present duty levels, can deliver anywhere in Canada at a lower laid-down cost than that of the United States product; in Ontario and Quebec it can do this even without duty. The principal external competition is from Britain on the two seaboard. For basic lead sulphate the Board recommends rates of Free and 15 p.c. and for tribasic lead sulphate, rates of 10 p.c. and 15 p.c.

Magnesium sulphate, in the form of "dried pure powder", is ruled to be made in Canada; thus, in this form, it is entered under tariff item 711 at rates of 15 p.c., B.P., and 20 p.c., M.F.N.; in its other forms it is entered under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N. Total imports of magnesium sulphate in 1963 were 3,361 tons valued at \$88,348 and came mostly from West Germany. The Board recommends continuation of the rates of Free and 15 p.c. for the magnesium sulphate that is not dried pure powder and for the latter, rates of 10 p.c. and 15 p.c.

Nickel sulphate, believed to be produced in Canada in significant quantities, is ruled to be so produced in the technical or commercial grade and, as such, entered under tariff item 711 at rates of 15 p.c. and 20 p.c. whereas the other grades are entered under tariff item 208t at rates of Free and 15 p.c. No representations were made to the Board concerning this product. For the technical or commercial grades the Board recommends rates of 10 p.c. and 15 p.c. and for the others, continuation of the rates of Free and 15 p.c.

The potassium sulphate of this Recommended Item is that containing in the dry state, more than 52 per cent by weight of K_2O ; that containing less than 52 per cent by weight of K_2O is classified in Recommended Item 31.00. Potassium sulphate of rather high purity is produced in Canada though the less pure fertilizer grade is supplied by importation, mainly from the U.S.A. and France and, in smaller measure, from Germany. Imports in 1961 were 26,000 tons but in 1963 were down to 19,000 tons valued at \$758,000. The decline coincides with the development of the Saskatchewan deposits of potassium chloride. However because of high transportation costs to provinces east of Manitoba, where most potassic fertilizer is used, these provinces will probably continue to import large quantities. In 1960, the refined product was imported to the value of only \$5,000. Other than a submission by the Industry Committee on classification, no representations were made to the Board concerning this product except in rather general terms. At present, the grade produced in Canada - which is not less than 99 per cent pure - is classified in tariff item 711 with rates of 15 p.c. and 20 p.c. The grades which are less than 99 per cent pure are entered under tariff item 209 free of duty under all Tariffs. For the grade of 99 per cent purity now produced in Canada the Board recommends rates of 10 p.c. and 15 p.c. and for the other less pure grades, free entry under all Tariffs.

Sodium sulphate acid, or sodium hydrogen sulphate, not known to be made in Canada, was imported, in 1964, to the extent of almost 3,500 tons, valued at \$163,000. Since 1960 imports have come only from the U.S.A., though previously there were imports from Britain also. The product is now entered under tariff item 208b at Free,

B.P., and 20 p.c., M.F.N. The only representation made to the Board relating specifically to sodium sulphate acid, was made by the pharmaceutical manufacturers, who use less than one per cent of the imports. Because there no longer appears to be imports from Britain and because those that existed formerly were negligible in value the Board is recommending free entry for this product under all Tariffs.

Sodium sulphate, neutral, is produced in Canada in several grades. Four producers in Saskatchewan produce sodium sulphate, neutral, from natural deposits. In Cornwall, Ontario, Courtauld's also makes the product as a by-product of its viscose production; this source represents less than 5 per cent of the total production and is of a higher degree of purity than the Saskatchewan product; a still purer grade was ruled made in Canada early in 1964. The Canadian market for the less pure forms was 254,000 tons valued at \$4.2 million in 1964; there is also a market for 500 to 1,000 tons of the highly refined product, valued at \$20,000 to \$30,000, all of which, until recently, was imported mostly from Western Germany and the U.S.A. The main use of neutral sodium sulphate is in the pulp and paper industry; this industry, located largely in British Columbia and east of Manitoba, is somewhat remote from Saskatchewan, the main source of production. The Saskatchewan producers make only one grade, known as Western saltcake, whereas Courtauld's produces three of the more refined grades. Freight costs are important on this product; east of Manitoba they make the delivered cost almost double the price f.o.b. plant. Exports, all to the U.S.A., are much larger than imports; in 1964, exports were 107,000 tons and imports were 31,000 tons. In the unrefined grades, practically all imports are from Britain and the U.S.A. freight costs provide a relatively important measure of protection at many places in Canada. In the refined grades import competition is felt more strongly. Provision is now made for the entry of the various grades of neutral sodium sulphate under the following tariff items: 210d, for the cruder grades at 1/5 cent per pound under both Tariffs, and 711, for the refined and very pure grades at 15 p.c. and 20 p.c. The largest Canadian producer urged no increase in rates whereas the others sought a duty of \$4.00 per ton, equivalent roughly to 20 p.c. or 25 p.c. ad valorem. The Board recommends rates of 10 p.c. and 15 p.c. for all grades.

Zinc sulphate is now entered under tariff item 208s at rates of Free and 20 p.c. For this product the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.39 Nitrites and nitrates:			
(1) Other than the following	Free	15	25
(2) Bismuth subnitrate (basic bismuth nitrate)	10	15	25
(3) Cobalt nitrate other than A.R. grade	10	15	25
(4) Potassium nitrate	Free	Free	Free
(5) Sodium nitrate containing, in the dry state, more than 16.3 per cent by weight of nitrogen	Free	Free	Free

28.39

(Cont'd)

	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
(6) Sodium nitrite	Free	12 $\frac{1}{2}$	25
(7) Strontium nitrate	Free	Free	Free

A number of products in this Recommended Item, not made in Canada, are now eligible for entry under tariff item 208t at rates of Free and 15 p.c.: ammonium nitrite, barium nitrite, bismuth nitrate neutral, cadmium nitrate, calcium nitrate, cupric nitrate, ferric nitrate, lead nitrate ground - lead nitrate, not ground, being entered under tariff item 488 at Free and 10 p.c. - magnesium nitrate, mercuric nitrate, mercurous nitrate, mercury subnitrate, nickel nitrate, potassium nitrite, and strontium nitrate; of these products, calcium nitrate, ferric nitrate, ground lead nitrate, and magnesium nitrate may also be entered free of duty under the provision of end-use item 664a. For all of these, including lead nitrate not ground, the Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Barium nitrate, not made in Canada, is used in fireworks and explosives. The market appears to have been 100,000 pounds valued at \$12,000 in 1961 and 1962. Half, or more, of the imports are from Britain; the remainder, said not to be obtainable from Britain, are from the United States of America. The product when "adapted for use in the manufacture of explosives" is entered, under tariff item 664a, free of duty under all Tariffs; otherwise subject to end-use item 246c, it is entered under item 208t at Free, B.P., and 15 p.c., M.F.N. Because the major use is in explosives most imports are entered free of duty under item 664a. British interests urged that no change be made in the margin of preference; the Board is recommending rates of Free, B.P., and 15 p.c., M.F.N.

Bismuth nitrate, basic, (bismuth subnitrate) is made in Canada by one producer; at the time of the hearing in 1961 representations were made that bismuth constituted the largest single element of cost in its production and that the bismuth was available to British competitors at lower costs than in Canada. Prior to 1961 bismuth appears to have been available to British producers at 15 per cent below the price in Canada but by the end of 1962 the situation had so changed that the price in Canada gave Canadian consumers an advantage of 7.5 per cent. Bismuth subnitrate is now, subject to end-use item 246c, entered under tariff item 711, at rates of 15 p.c. and 20 p.c. The Canadian producer originally sought continuation of these rates because of its disadvantage, at the time, in purchases of bismuth. The Canadian market was represented as too small for efficient production and the producer's real need, as greater efficiency and cheaper bismuth. The Board recommends rates of 10 p.c., B.P., and 15 p.c., M.F.N.

Cobalt nitrate, of grades other than A.R. (analytical reagent), is ruled to be made in Canada; as such it is entered, subject to end-use item 246c, under tariff item 711 at rates of 15 p.c. and 20 p.c.; in line with its recommendations for many similar products the Board recommends rates of 10 p.c. and 15 p.c. For the cobalt nitrate of A.R. grade, now entered under tariff item 208t as a chemical not produced in Canada, the Board recommends continuation of

the existing rates of Free, B.P., and 15 p.c., M.F.N.

Potassium nitrate, not made in Canada, has a market of some 900 tons with a value of about \$135,000. Imports are from West Germany, Poland, the United States of America and Britain. Under tariff item 209 it is entered free of duty under all Tariffs, The Board recommends continued free entry.

Sodium nitrate is neither made nor naturally occurring in Canada. When it contains 16.3 per cent or less of nitrogen, it would be classified in Recommended Item 31.00 with fertilizers. Imports of 20,000 tons in 1964 valued at more than \$1.0 million came largely from the United States of America, Chile and Britain. The principal use is in the production of explosives. It is entered free of duty under all Tariffs under tariff item 210e and the Board recommends continuation of this tariff status.

The sodium nitrite market is about 1,100 tons valued at \$90,000; there is no domestic production and imports are from Britain, West Germany, Poland and other countries. The product is now entered at Free and 12½ p.c. under tariff item 210. The Board recommends that these rates be continued.

Strontium nitrate is not produced in Canada. Most supplies are imported from the U.S.A. with small amounts from the U.K. No other use but in explosives is known in Canada. The Canadian consumption has declined from 400 tons in 1957 to less than 200 tons valued at about \$50,000 in 1962. It is now entered under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N., and under tariff item 664a, free of duty under all tariffs, when for use in explosives. Since most, if not all, imports are for use in explosives and since no substitute is known, the Board recommends free entry under all Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.40 Phosphites, hypophosphites and phosphates:			
(1) Other than the following	Free	15	25
(2) Lead phosphite, dibasic	10	15	25
(3) Sodium hexametaphosphate	10	15	25
(4) Sodium phosphate, dibasic, pharmacopoeial grade	10	15	25
(5) Sodium phosphate, monobasic, pharmacopoeial grade	10	15	25
(6) Sodium phosphate, tribasic, commercial grade	10	15	25
(7) Sodium pyrophosphate, normal, other than A.R., C.P. and pharmacopoeial grades	10	15	25
(8) Sodium tripolyphosphate	10	15	25

The only Canadian producer of the chemicals in this Recommended Item is the Electric Reduction Company of Canada Limited (Erco);

the production is in the Erco plant at Buckingham, Quebec. Many of these products are known by several names, some of which are noted in the Notes on Recommended Items; they are largely used in the treatment of water supplies and in the manufacture of toothpaste, detergents, cleansers and baking powder. The market for the inorganic phosphates is estimated to exceed \$10 million annually; over 80 per cent is supplied from domestic production; about \$7.5 million of this market represents some 45,000 tons of sodium tripolyphosphate. Of the nine phosphates of major importance in the domestic market, seven are produced in Canada and of these seven, domestic production supplies the largest share of the market for six. About 80 per cent of the total consumption is used in the manufacture of detergents and toothpastes. Imports supply only about 10 per cent of the market for the phosphates produced in Canada. In the Toronto-Hamilton area and in Ontario and Quebec, the main market area, Erco generally has an advantage in freight costs over competitors in the U.S.A. In 1962 imports of only three phosphates not available from Canadian production were estimated in value at \$670,000 and in addition a large number of others were also imported in smaller quantities. In total, all imports of phosphates combined represented about 20 per cent of domestic consumption and more than half of these were of products not available from Canadian production.

Erco, the Canadian producer, sought rates of 15 p.c. and 20 p.c. for all phosphates produced by the company and all other phosphates except two groups of products not available from Canadian production for the first of which it proposed rates of Free and 15 p.c. and for the second rates of Free and 10 p.c., only until they were available from Canadian production, at which point the rates would become 15 p.c. and 20 p.c. Several consumers sought free entry under both Tariffs for products unavailable from Canadian production. Though the producer's location at Buckingham, Quebec, generally gives it certain freight advantages over foreign competitors in the main market areas it nevertheless has certain other disadvantages arising from its production of phosphorus at Varennes, Quebec, which is shipped to Buckingham for conversion to phosphoric acid and then to phosphates which, in turn, are largely shipped to the Toronto-Hamilton area. Though some stress was laid upon the need for rates of 15 p.c. and 20 p.c. for the phosphates available from Canadian production, the need for these particular rates was not clearly established.

Under this Recommended Item there are a large number of products now entered under tariff item 208t at Free, B.P., and 15 p.c., M.F.N., or as non-medicinal acid phosphates under tariff item 218 at Free, B.P., and 25 p.c., M.F.N.; they include aluminum orthophosphate artificial, aluminum phosphate, ammonium hypophosphite, ammonium phosphate dibasic containing, in the dry state, less than 6 mg. of arsenic per kg., ammonium phosphate monobasic containing, in the dry state, less than 6 mg. of arsenic per kg., ammonium phosphate tribasic containing, in the dry state, less than 6 mg. of arsenic per kg., barium phosphate dibasic, calcium hydroxyphosphate, calcium hypophosphate, calcium hypophosphite, calcium phosphate dibasic containing, in the dry state, less than 0.2 per cent by weight of fluorine, calcium phosphate monobasic containing, in the dry state, less than 0.2 per cent by weight of fluorine, calcium phosphate tribasic, calcium pyrophosphate dibasic, chromium phosphate (subject to entry under item 246 as a dry colour), cobalt phosphate, copper phosphate, iron hypophosphite,

iron phosphate, iron pyrophosphate, lead hypophosphite, lead phosphate, magnesium phosphate dibasic, magnesium phosphate monobasic, magnesium phosphate tribasic, magnesium phosphite, manganese hypophosphite, manganous orthophosphate tribasic, manganous phosphate acid, manganous pyrophosphate, potassium hypophosphite, potassium metaphosphate, potassium phosphate dibasic, potassium phosphate monobasic, potassium phosphate tribasic, potassium pyrophosphate, sodium hypophosphite, sodium metaphosphates other than sodium hexametaphosphate, sodium phosphate dibasic of non-medicinal grade, sodium phosphate monobasic of non-medicinal grades, sodium phosphate tribasic other than commercial grade, sodium pyrophosphate acid, sodium pyrophosphate normal of C.P., A.R. and medicinal grades, tricalcium diorthophosphate and zinc phosphate tribasic; of these products, the magnesium phosphates are also subject to end-use item 921. For all these products the Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Several products ruled to be made in Canada, are now entered under tariff item 711 at rates of 15 p.c., B.P., and 20 p.c., M.F.N.; they include lead phosphite dibasic, sodium hexametaphosphate (the insoluble form is subject to entry under tariff item 208t and both forms are subject to end use item 729), sodium phosphate tribasic of commercial grade, sodium pyrophosphate, normal, other than A.R., C.P. and pharmacopoeial grades and sodium tripolyphosphate; two further products, now produced in Canada, are entered under tariff item 208t at rates of Free and 15 p.c.: sodium phosphate dibasic and sodium phosphate monobasic, both of pharmacopoeial grade. For all these products the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>		<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.41	Arsenites and arsenates:			
	(1) Other than the following	Free	15	25
	(2) Sodium arsenates	Free	10	15
	(3) Sodium arsenite	10	15	25

Aluminum arsenates, calcium arsenates, calcium arsenite, cobalt arsenates, copper arsenates, copper arsenite, lead arsenates, lead arsenite, mercury arsenates, potassium arsenates and zinc arsenite are all, subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), entered under item 208t at rates of Free and 15 p.c.; cobalt arsenates and copper arsenite are also subject to the end-use provisions of tariff item 246c and the cobalt arsenates as dry colours may be entered under tariff item 246 as dry colours at rates of $12\frac{1}{2}$ and $17\frac{1}{2}$ p.c. No representations were made to the Board relating to these chemicals and the Board recommends continuing the rates of Free and 15 p.c.

Sodium arsenates are subject to entry under tariff item 210 at rates of Free and $12\frac{1}{2}$ p.c. and to the end-use provisions of tariff item 791 (Recommended Item R-35). The Board is recommending rates of Free and 10 p.c.

For sodium arsenite three Canadian companies sought rates of 15 p.c. and 25 p.c.; the principal raw material in the production of

sodium arsenite is arsenic trioxide; the rate proposal appears based on the anticipation that the Board would recommend the proposed rates of 15 p.c. and 25 p.c. on arsenic trioxide for which the Board, in Recommended Item 28.11, recommends rates of 10 p.c. and 15 p.c. Subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35) sodium arsenite is now entered at rates of Free and 15 p.c. under tariff item 208t. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.42 Carbonates and percarbonates; commercial ammonium carbonate containing ammonium carbamate:			
(1) Other than the following	Free	15	25
(2) Bismuth carbonate and bismuth carbonate, basic	10	15	25
(3) Cobaltous carbonate, basic	10	15	25
(4) Lead carbonate, basic	10	15	25
(5) Potassium carbonate	Free	Free	Free
(6) Sodium bicarbonate	Free	12½	20
(7) Sodium carbonate, anhydrous	10	15	25
(8) Sodium carbonate decahydrate (sal soda)	10	15	25

Though many products are classified in this Recommended Item, only a few are of commercial importance. A group including ammonium bicarbonate, ammonium carbonate commercial, ammonium hydrogen carbonate, copper carbonate, iron carbonate, lithium carbonate, manganese carbonate, nickel carbonate, potassium bicarbonate, potassium hydrogen carbonate, potassium percarbonates, sodium carbonate monohydrate, sodium hydrogen carbonate, sodium percarbonates, sodium sesquicarbonate, strontium carbonate precipitated and zinc carbonate precipitated are generally entered under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N. For all these carbonates and percarbonates the Board recommends free entry under the British Preferential Tariff and a rate of 15 p.c. under the Most-Favoured-Nation Tariff.

Barium carbonate is used largely in the brick-making industry and in making drilling muds for oil well drilling. It is not produced in Canada. In 1964, imports were 4,341 tons, valued at \$392,000, mostly from Britain and West Germany and also from the United States and France. It is now entered, under item 208t, at Free and 15 p.c., and under the end-use provisions of tariff item *848b, which would remain unchanged, Free under both Tariffs. The natural form, witherite, not included in the Reference or in this Recommended Item, is entered under tariff item 711. All proposals sought to continue the existing rates of Free and 15 p.c., though certain domestic interests sought to see these rates increased to 15 p.c. and 20 p.c. when barium carbonate becomes made in Canada; no reasons were given in support of the latter proposal unless it be that of uniformity of rates. The Board therefore recommends a continuation of the existing rates of Free and 15 p.c.

Bismuth subcarbonate (bismuth carbonate, basic) is now entered, under tariff item 711, at rates of 15 p.c. and 20 p.c. and cobalt carbonate (cobaltous carbonate, basic), under tariff item 208t at rates of Free and 15 p.c. Each appears to be made in Canada by only one producer, Mallinckrodt Chemical Works Limited, though the cobalt carbonate is not now ruled to be so made. Each also appears to encounter quite serious competitive difficulties: in the case of the cobalt carbonate, the obtaining of raw materials; in the case of both, the restricted market. The Board recommends rates of 10 p.c. and 15 p.c. for both products.

Calcium carbonate in the existing Tariff is in differing forms, in different tariff items: 208t, 240, *296, *296f, *305a, *305c, *306c, *306d, *307, 711, 711 Ex. and 875a. Only those forms entered under tariff items 208t, 240 and 875a are within the Reference. The market for precipitated calcium carbonate, the only form within the Recommended Item, appears to be less than \$300,000 annually, a very small fraction of the market value of the crude forms. The paint and varnish industry seems to be the only substantial user of the precipitated form - the only form under discussion. Imports of calcium carbonate have been from the United States of America, Britain and France. Imports from the two latter appear to be largely of the natural product. Transportation costs are high in relation to the value of the product. There are, in Canada, forms of naturally occurring calcium carbonate but there is no production of the precipitated form. The Canadian Colour Makers Association sought free entry under an end-use provision and the Canadian Paint Varnish & Lacquer Association, free entry without qualification though both associations agreed to the Industry Committee's proposal of 15 p.c. and 20 p.c. when the product was made in Canada. The Rubber Association of Canada and Consolidated Mining and Smelting Company of Canada opposed any increase in rates. At present precipitated calcium carbonate is entered at rates of Free and Free under the end-use provisions of tariff item 875a or at rates of Free and 15 p.c. under tariff item 208t if it meets certain pharmacopoeial specifications and otherwise at rates of Free and 10 p.c. under tariff item 240. The Board recommends rates of Free and 15 p.c.

Lead carbonate, basic, is produced in Canada by two companies. About 90 per cent of its consumption is by the paint industry. Titanium dioxide, a more effective pigment, took much of the lead carbonate market which, after a decline, has remained fairly stable since the mid-fifties. There is a market in Canada for 600 or 700 tons annually with a value of \$200,000 to \$270,000. Imports were said not to have been significant. There are exports to the United States, probably greater in size than the Canadian market. American prices have been higher than domestic prices; prices in Britain were lower than Canadian prices and British imports supply the market on both coasts. Basic lead carbonate is now entered, under tariff item 243, at rates of 15 p.c. and 20 p.c. The producers sought continuation of these rates and the Colour Makers, subject to similar "reasonable duty protection" on their products, supported this plea. The Canadian producers supported their plea in part by pointing out that Canadian consumers paid about 20 per cent more for lead than did their British competitors. This question is discussed under Recommended Item 28.27: lead oxide. Lead represents about 80 per cent of the cost of production of the lead carbonate. British interests sought free entry under

the British Preferential Tariff. It appears that the Canadian producers export more than the domestic market consumes, that freight costs prevent them from reaching our own coastal markets and that imports are insignificant. The Board is recommending a drop of 5 per cent in both Tariffs to rates of 10 p.c. and 15 p.c.

Magnesium carbonate was not the subject of representations by interested parties. Insofar as it is within the terms of this Reference it appears to be classified in tariff item 296b(2) at 20 p.c. and 20 p.c., in end-use item 296c at Free and 20 p.c. and in end-use item 296e at Free and Free. In its natural form, not included in the Reference, it appears in tariff item *296a at Free and Free, and in 296b(2) (Recommended Item R-20) at 20 p.c. and 20 p.c. No reasons are apparent to the Board for the rates of 20 p.c. prevailing under both Tariffs in item 296b(2) nor for the rate of 20 p.c. prevailing under the Most-Favoured-Nation Tariff in item 296c. It is therefore recommending that magnesium carbonate bear the general rates of Free and 15 p.c. recommended for all the unspecified carbonates.

Potassium carbonate, under tariff item 209a, is now entered free under all Tariffs unless it comes in packages of less than 25 pounds in weight when the rates become 10 p.c. and $12\frac{1}{2}$ p.c. No representations were made and the Board sees no reason to continue the distinction in package size and recommends free entry for this product under all Tariffs.

Sodium bicarbonate is commonly associated with the baker and the dyspeptic. It is not made in this country. Imports are largely from the United States, but also from Britain. The Canadian consumption has been increasing slowly and reached 9,813 tons valued at \$530,000 in 1964. It is now entered Free and at $12\frac{1}{2}$ p.c. under tariff item 207. There were the usual pleas for continuation of the rates and for rates of 15 p.c. and 20 p.c. if sodium bicarbonate were to be made in Canada. At the present time the Board sees no reason for change and recommends rates of Free and $12\frac{1}{2}$ p.c.

Of sodium carbonate, the anhydrous, or soda ash, is the most significant form commercially. It is produced commercially by only one producer, in Ontario, though small amounts are produced for captive use by another company. In 1962, the commercial producer had a capacity of 286,000 tons annually, claimed by it to be sufficient to supply the domestic market; in late 1963 trade sources reported an addition to its capacity of a further 35 or 50 thousand tons. The Canadian market in 1964 was about 400,000 tons annually with a value of \$13 million; it is largely in Quebec and Ontario. The Canadian producer stated that it supplied over 90 per cent of the domestic market. Because of transportation costs the two seaboard are served by imports. Soda ash is used in the production of glass and aluminum; the Aluminum Company of Canada imports a large proportion of the total imports, from both Britain and the United States, in order not to be dependent upon a single source of supply. About 60 per cent of the imports appear to be entitled to drawback. Exports were said to be negligible. Prices in Canada, for some years, have been higher than those in the United States, the difference being about equal to the most-favoured-nation rate of duty. It is a co-product of calcium chloride for which the Board is recommending rates of Free and 15 p.c.

in Recommended Item 28.30. The product is now entered, in the form of reagent purified powder under tariff item 711 at 15 p.c. and 20 p.c. and in other forms under tariff item 210b at specific rates per 100 pounds of 15 cents British Preferential and 25 cents Most-Favoured-Nation, the ad valorem equivalents of which are about 10 p.c. and 16 p.c. The domestic producer sought rates of 15 p.c. and 20 p.c. while the aluminum interests, the plywood interests and the synthetic rubber interests (Polymer Corporation) all proposed free entry under both Tariffs under end-use items; the Canadian Pulp and Paper Association opposed any increase in rates. The Canadian producer's plant is indeed smaller than many plants in the United States but it is larger than some; at the time of the hearing, the company was supplying more than 90 per cent of the domestic market; two-thirds of the existing imports were being entered because of one consumer's policy of not relying on a single producer. The Board can find no reason to increase rates or to continue the specific rate principle. It therefore recommends rates of 10 p.c. and 15 p.c. on sodium carbonate.

Sodium carbonate decahydrate, also known as sal soda and washing soda, is three times the weight and volume of the anhydrous form; though no representations were made to the Board and no statistical data are available, the product is understood to be produced in Canada. Provision for sal soda is made in tariff item 210b(ii) with rates, per 100 pounds, of 20 cents, B.P., and 30 cents, M.F.N. For this product the Board is recommending rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.43 Cyanides and complex cyanides:			
(1) Other than the following	Free	15	25
(2) Calcium cyanide	Free	Free	Free
(3) Potassium cyanide	Free	Free	Free
(4) Sodium cyanide	Free	Free	Free
(5) Sodium ferricyanide	Free	Free	Free
(6) Sodium ferrocyanide	Free	Free	Free

Ammonium ferrocyanide, copper ferrocyanide, (also subject to entry under tariff item 246 at 12½ p.c. and 17½ p.c.) cupric cyanide, cuprous cyanide, mercuric cyanide, mercuric oxycyanide, nickel cyanide, and zinc cyanide are now classified as chemicals of a kind not made in Canada under tariff item 208t and, consequently, dutiable at rates of Free, B.P., and 15 p.c., M.F.N. Potassium ferricyanide and potassium ferrocyanide are entered under tariff item 209c, at the same rates. Of the copper cyanides the cupric cyanide is a somewhat unstable product and consequently the cuprous cyanide is the more usual form in commerce; about 80 per cent of Canadian supplies are imported from Britain, with other imports from Western Germany and the United States of America; total imports are of a value of about \$50,000 annually. Zinc cyanide imports appear to have an annual value between \$35,000 and \$55,000. For all these products now entered under tariff item 208t or 209c the Board recommends continuation of the existing rates of Free, B.P., and 15 p.c., M.F.N.

Calcium cyanide is made in Canada by only one producer: Cyanamid of Canada Limited; it is competitive with sodium cyanide in its principal use, the extraction of gold and silver from ores; the principal value of both products is in their cyanide content which is about twice as great in the sodium cyanide. The combined market for both products, in 1959, in Canada was estimated to be equal to about 14 million pounds of sodium cyanide with a value of about \$1.5 million; a little over one third of this market was then supplied by 10 million pounds of calcium cyanide (equivalent to about 5 million pounds of sodium cyanide). Practically all the calcium cyanide used in the U.S.A. is reported to be imported from Canada; in 1960 exports by the Canadian producer were reported to be 20,700 tons to the U.S.A. and 1,800 tons to other countries. About three-quarters of the Canadian production is exported to the U.S.A. where it is entered free of duty. Calcium cyanide is now entered free of duty under all Tariffs under items 208, 219e (Recommended Item 38.11) or 791 (Recommended Item R-35). Generally, continued free entry was sought and this the Board's recommendation.

Potassium cyanide, not known to be made in Canada, is used almost entirely in electroplating solutions; sodium cyanide is used for the same purpose and is less expensive, however because of higher conductivity its potassium cyanide is preferred in some applications. Potassium cyanide is imported largely from Britain and the U.S.A. with imports from Western Germany also; imports were of 255,000 pounds valued at \$94,000 in 1963. The product is now entered free of duty under all Tariffs under item 208. The Board recommends continued free entry.

Sodium cyanide has been produced in Canada, by only one producer, Shawinigan Chemicals Company Limited, since 1960. Some observations on this product are contained in the paragraphs concerning calcium cyanide and potassium cyanide. About two-thirds of the Canadian market for cyanide is supplied by sodium cyanide. The producer expects to capture some of the market now occupied by calcium cyanide. Recent statistics of imports are difficult to interpret because of a strike in the producer's plant from August 1962 to early 1963; there was a decline in imports upon resumption of domestic production; in 1961 the producer was exporting to the U.S.A. where sodium cyanide is entered free of duty. Under tariff item 208 the product is now entered free of duty under all Tariffs. In line with nearly all the representations made to it the Board recommends free entry under all Tariffs.

Sodium ferrocyanide, said not to be produced in Canada, is used principally in the manufacture of pigments. In each of the years 1958 and 1959 the members of the Canadian Colour Makers Association used about 400,000 pounds of the product valued at about \$55,000. Our import statistics combine yellow prussiate of soda (sodium ferrocyanide) and red prussiate of soda (sodium ferricyanide); combined imports vary from year to year; they were of 937,000 pounds valued at \$119,000 in 1964. No representations were made to the Board concerning sodium ferricyanide. The only representations made on sodium ferrocyanide were for free entry. At present both products are entered under tariff item 210 at Free, B.P., and 12½ p.c., M.F.N. The Board recommends free entry for both under all Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.44 Fulminates, cyanates and thiocyanates	Free	15	25

The cyanates of alkaline earths, ammonium cyanate, ammonium thiocyanate, calcium thiocyanate also subject to end-use item 921, cupric thiocyanate, cuprous thiocyanate, mercuric thiocyanate, potassium cyanate, potassium thiocyanate, sodium cyanate and sodium thiocyanate are now entered under tariff item 208t as chemicals of a kind not produced in Canada, at Free, B.P., and 15 p.c., M.F.N.; mercury fulminate is entered both under tariff item 208t at Free and 15 p.c. or under tariff item 666 at $1\frac{3}{4}$ cent B.P. and $2\frac{1}{4}$ cents per pound, M.F.N. The Canadian Federation of Agriculture and certain pesticide manufacturers sought free entry for potassium cyanate for use in making pesticides - an end-use for which provision is made in Recommended Item R-35. For potassium thiocyanate and sodium thiocyanate, the pharmaceutical manufacturers sought continuation of the existing rates of Free, B.P. and 15 p.c., M.F.N. until they are ruled to be of a kind produced in Canada when rates of 15 p.c., B.P. and 20 p.c., M.F.N. were proposed. Mercury fulminate and potassium cyanate appear to be the important products of this heading. For all the products of the heading the Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.45 Silicates; commercial sodium and potassium silicates:			
(1) Other than the following	Free	15	25
(2) Calcium silicates	Free	Free	Free
(3) Sodium silicates	Free	$12\frac{1}{2}$	20
(4) Zirconium silicate	Free	Free	Free

Several products of this Recommended Item, entered under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N., are not produced in Canada and were not the subject of any substantial representations. They include: aluminum silicate, barium silicates, caesium silicate, lead silicate (lead metasilicate), magnesium silicates (subject to end-use item 921), manganese silicate, potassium silicate, and zinc silicate. For all these products the Board recommends continuation of the existing rates of Free and 15 p.c.

Calcium silicates may be produced by chemical processes and the most important one commercially, wollastonite or calcium metasilicate, enters commerce as a natural mineral. None of these silicates appears to be produced in Canada. The average value of all imports in the five-year period 1956-1960 was \$70,000 to \$75,000. The major use of wollastonite is as an extender for paints. Wollastonite is enumerated under an extract of item 208t and an extract of item 711 with rates of Free, B.P., and 5 p.c., M.F.N. The chemically produced calcium silicates are entered under item 208t at rates of Free, B.P.,

and 15 p.c., M.F.N. The main representations concerning these products, which are not produced in Canada, were for free entry; the Board's recommendation is for free entry. There was discussion - and some lack of agreement - among those skilled in the subject upon the classification of wollastonite. Under this Recommended Item the Board recommends free entry for the chemically produced calcium metasilicate; under Recommended Item R-19 it is recommending free entry for wollastonite in its natural form as a mineral.

Lead silicate basic (white lead silicate) is ruled to be made in Canada and consequently subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c.; however the form of importance in trade is a prepared pigment of Recommended Item 32.07; for the form subject to the present Recommended Item the Board recommends rates of Free and 15 p.c.

Sodium silicates include the metasilicate, orthosilicate, sesquisilicate, and silicate. There is only one producer in Canada, operating two plants each of which is large compared to competitors in the U.S.A.; it produces some 30 grades of the sodium silicates. In 1962, incomplete data reveal Canadian consumption of over 120 million pounds of sodium silicates with a value of about \$2.4 million; Canadian production appears to supply at least 90 per cent of Canadian use. Of the imports, most are from the U.S.A. though there are some from Britain and other countries; most imports are of forms unavailable from domestic production. In 1961, Canadian prices, f.o.b. plant, were 12 to 16 per cent higher than those in the U.S.A. Because these silicates are low-priced industrial chemicals, transportation is an important factor in the laid-down cost; potential competitors in the U.S.A. appear to be at considerable disadvantage: 21 per cent to 49 per cent for liquid sodium silicate and 16 per cent to 20 per cent for the solid, to most consuming location. Sodium silicates are now entered under tariff item 210 at rates of Free, B.P., and $12\frac{1}{2}$ p.c., M.F.N. The producer urged rates of 15 p.c. and 20 p.c. Soda ash or anhydrous sodium carbonate constitutes some 75 per cent of the raw material costs; the producer of sodium silicates represented that the existing M.F.N. duty on the soda ash resulted in a 14 per cent disadvantage on its purchases; the ad valorem equivalent of the specific rate on soda ash is about 14 per cent and in Recommended Item 28.42 the Board has recommended 15 p.c. However, geographical location confers a compensating advantage in relation to the final product. Imports from France were cited as a serious threat but they have not approached one per cent of Canadian consumption in any one year. Consequently the Board is recommending continuation of the existing rates of Free, B.P., and $12\frac{1}{2}$ p.c., M.F.N.

Zirconium silicate is now classified in tariff item *295a which is outside the scope of this Reference; it is entered free of duty under all Tariffs. For uniformity of nomenclature the Industry Committee proposed relocation of this chemical in heading 28.45 at the same rates. However, tariff item *295a covers the naturally occurring mineral zirconium silicate (zircon) which is excluded from this Recommended Item. To preserve the uniformity of nomenclature the Board recommends that zirconium silicate be enumerated in this Recommended Item with provision for free entry under all Tariffs to provide for the chemical product and that Recommended Item R-19 provide free entry under all Tariffs for natural zirconium silicate.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.46 Borates and perborates:			
(1) Other than the following	Free	15	25
(2) Sodium tetraborate	Free	Free	Free

Aluminum perborate, ammonium borate, ammonium metaborate, ammonium pentaborate, ammonium perborate, cadmium borate, calcium borate precipitated, calcium perborate, cobalt borate, copper borate, lead borate, magnesium perborate, manganese borate, mercury borate, nickel borate, potassium perborate, sodium metaborate subject also to end-use items 219a (Recommended Item 38.11), 663b (Recommended Item R-31) and 791 (Recommended Item R-35), sodium pentaborate, zinc borate, zinc perborate and zirconium borate are all chemicals not produced in Canada; they are now entered under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N.; for these products the Board recommends continuation of the rates of Free, B.P., and 15 p.c., M.F.N.

Sodium perborate, not produced in Canada, is largely imported from Britain; it is used principally in the manufacture of soaps and washing compounds; the annual value of Canadian use increased from \$95,000 in 1959 to \$160,000 in 1963. Sodium perborate is now entered under item 208t at rates of Free, B.P., and 15 p.c., M.F.N. and under end-use item 791 (Recommended Item R-35), free of duty. Most representations urged continuation of the rates of Free and 15 p.c., though the Javex Company Limited urged rates of 15 p.c. and 20 p.c. because the product, as a bleaching agent, was competitive with sodium hypochlorite. The Board recommends that the rates of Free and 15 p.c. be continued.

Sodium tetraborate and borax provide possibilities of confusion in nomenclature. The chemical, sodium tetraborate, is also known as sodium borate, sodium pyroborate and, in commercial usage, as borax; the naturally occurring mineral, borax, is also known as borax decahydrate and tincal. The Brussels Nomenclature excludes the natural form from heading 28.46. In the Canadian Customs Tariff and statistics the word borax appears to cover both the natural and the refined forms of sodium borate. The Board is recommending that the refined form be included in Recommended Item 28.46 and is recommending another item: R-7, for the natural form. All supplies of sodium tetraborate - in either form - are imported, almost 99 per cent from the U.S.A. with the remainder from Britain; in 1963, imports reached a peak of about 29 million pounds valued at more than \$1 million but declined to 21 million pounds valued at \$740,000 in 1964. "Borax in packages of not less than twenty-five pounds weight" is entered free of duty under tariff item 208, borax in packages less than twenty-five pounds in weight is entered under tariff item 208t at Free, B.P., and 15 p.c., M.F.N., and "fused borax" is entered under tariff item 208f, free of duty; it is also subject to free entry under end-use items 663b (Recommended Item R-31), 791 (Recommended Item R-35) and 851 which remains unchanged. Most representations to the Board sought free entry, subject to qualification upon production in Canada. The Board does not recommend continuation of the packaging differentiation and recommends free entry under all Tariffs for both forms and for fused borax.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.47 Salts of metallic acids (for example, chromates, permanganates, stannates):			
(1) Other than the following	Free	15	25
(2) Sodium dichromate	Free	12 $\frac{1}{2}$	25
(3) Sodium stannate	Free	12 $\frac{1}{2}$	25

Aluminum stannate, ammonium chromate, ammonium dichromate, ammonium metavanadate (246), ammonium molybdate (246), ammonium tungstate, barium aluminate, barium chromate (246), barium plumbate, barium titanate (246), barium tungstate (246), barium zincate, the bismuthates, calcium aluminate, calcium chromate (246), calcium molybdate, calcium permanganate, calcium plumbate, calcium tungstate (246), chromium aluminate (246), chromium stannate (246), cobalt zincate (246), cobaltous tungstate (246 and end-use item 203d), copper tungstate, ferric chromate (246), ferric vanadate, the germanates, lead molybdate (246), lead titanate (246), magnesium stannate, magnesium tungstate (246), manganous chromate, the niobates, the perhenates, potassium aluminate, potassium antimonate (246), potassium chromate, potassium dichromate (tariff item 209c in its crude form), potassium ferrate, potassium manganate, potassium tungstate, the rhenates, sodium antimonate, sodium chromate, sodium chromate tetrahydrate, sodium manganate, sodium meta-antimonate, sodium metavanadate (246 and end-use item 203d), sodium orthovanadate, sodium permanganate, sodium plumbate, sodium plumbite, sodium pyroantimonate, sodium titanate, sodium zincate, strontium chromate (246), strontium plumbate, the tantalates, zinc aluminate, zinc permanganate and the zirconates (246) are all products not now produced in Canada and on which little or no information was available to the Board. They are all subject to rates of Free and 15 p.c. under item 208t and, where indicated in parentheses, to rates of 12 $\frac{1}{2}$ p.c. and 17 $\frac{1}{2}$ p.c. under item 246. For all these products the Board recommends rates of Free and 15 p.c.

A further group of products are now entered under tariff item 246 at rates of 12 $\frac{1}{2}$ p.c. and 17 $\frac{1}{2}$ p.c.; they include barium manganate, chromium tungstate, cobalt stannate, cobaltous aluminate, copper stannate, iron zincate (also subject to end-use item 246c), lead aluminate, lead antimonate, lead chromate, lead tungstate and zinc chromate. For them also the Board is recommending rates of Free and 15 p.c.

Potassium permanganate, sodium molybdate and sodium tungstate, not being produced in Canada, are also entered under item 208t or an extract therefrom at rates of Free and 15 p.c. Potassium permanganate imports in 1960 were valued at about \$60,000; members of the Primary Textiles Institute were reported to make use of the product to the extent of about \$40,000 annually and the Institute urged free entry under both Tariffs. Sodium molybdate is an essential raw material in the production of molybdate orange and phospho-molybdic toners; imports in 1963 were valued at about \$110,000, largely from Britain; about two-thirds of the imports were used by colour makers who sought free entry for their use; the Molybdenite Corporation of Canada sought rates of 12 $\frac{1}{2}$ and 17 $\frac{1}{2}$ p.c., those now applicable to

molybdenum oxide under tariff item 246, because of the simplicity of the process of conversion from molybdenum oxide to sodium molybdate. Sodium tungstate is used by colour makers as a raw material for making phosphotungstic toners; in 1960 imports were valued at about \$14,500; the colour makers sought free entry. For these three products the Board recommends continuation of the existing rates of Free and 15 p.c.

Sodium aluminate, used in the treatment of water, is available as a solution and as a solid; the solution is made in Canada; the solid form is not produced in Canada though it was said to supply practically all the Canadian use; in 1963, imports were valued at \$255,000; a British producer supplied about 40 per cent of the market of 1,000 to 1,200 tons in 1961; the solid product is entered under tariff item 208t at Free and 15 p.c. and the solution under tariff item 711 at 15 p.c. and 20 p.c.; the solution was said to be unstable and unsuited for storage or transit and consequently all imports are of the solid form. The Board recommends rates of Free and 15 p.c. without distinction between the two forms.

Sodium dichromate, not produced in Canada, is imported almost entirely from the U.S.A. and Britain; in 1964, Canada imported 10.3 million pounds valued at \$1.2 million. Much of the imports from the U.S.A. are in solution, the form used by the colour makers; other imports are of the crystalline form. The principal uses are in tanning leather and in the production of chemicals; in the latter use, colour-making and the production of chromium oxide predominate. Sodium dichromate is entered under tariff item 210 at rates of Free, B.P. and $12\frac{1}{2}$ p.c., M.F.N. One producer of chromium oxide, having corporate affiliation with its British source of sodium dichromate, sought continuation of the existing rates and would have agreed to discontinue former end-use item 210f which used to provide free entry for use in the manufacture of chromium oxide, a use which accounts for roughly 6 per cent of the total consumption; the other producer of chromium oxide urged either free entry for sodium dichromate or continuation of former end-use item 210f because the British suppliers of the product were also manufacturers of chromium oxide and consequently this second Canadian producer had to be able to purchase elsewhere to find a truly free market; the tanning industry sought free entry for the product. Item 210f is no longer in the Customs Tariff, but has been replaced by item 210j, a temporary end-use item which provides free entry under all Tariffs for sodium bichromate used in the manufacture of chromic acid and chromium sulphate, including basic chromium sulphate. The Board is recommending continuation of the existing rates of Free and $12\frac{1}{2}$ p.c.

Sodium stannate, like sodium dichromate, is entered at Free, B.P., and $12\frac{1}{2}$ p.c., M.F.N., under item 210; no representations were made concerning this product. For it also, the Board recommends continuation of the existing rates of Free and $12\frac{1}{2}$ p.c.

Recommended ItemB.P. M.F.N. G.T.

28.48 Other salts and peroxy salts of
inorganic acids, but not including
azides:

(1) Other than the following	Free	15	25
(2) Ammonium nickel sulphate, technical or commercial grade	10	15	25
(3) Ammonium zinc chloride	10	15	25

After the public hearings there were amendments to the Brussels Tariff Nomenclature bringing into heading 28.48 products previously classified in other headings. These products include: ammonium ferric chloride, ammonium ferrous chloride, ammonium stannic chloride and ammonium zinc chloride, from heading 28.30; ammonium copper thiosulphate, calcium potassium thiosulphate and lead potassium thiosulphate, from heading 28.37; ammonium cobalt sulphate, ammonium copper sulphate, ammonium mercury sulphate, ammonium nickel sulphate and magnesium sulphate - potassium sulphate containing, in the dry state, more than 30 per cent by weight of K_2O , from heading 28.38; ammonium magnesium phosphate, ammonium sodium hydrogen orthophosphate and magnesium sodium phosphate, from heading 28.40. Though the discussion of these products at the public hearings is related to the former headings, in the Report it is related to Recommended Item 28.48.

Subject to certain end-use provisions, a large group of chemicals in this heading are now entered under item 208t at rates of Free and 15 p.c.: alumino silicates, aluminum sodium chloride, ammonium chorostannate, ammonium cobalt sulphate, ammonium copper chloride, ammonium copper sulphate, ammonium copper thiosulphate, ammonium ferric chloride, ammonium ferrous chloride, ammonium ferrous sulphate, ammonium magnesium chloride, ammonium magnesium phosphate, ammonium mercury chloride, ammonium mercury sulphate, ammonium nickel chloride, ammonium nickel sulphate other than technical or commercial grade, ammonium reineckate, ammonium selenate, ammonium stannic chloride, ammonium sulphamate, arsenosulphides, bismuth sodium iodide, bismuth telluride, cadmium borotungstate, cadmium potassium iodide, cadmium selenide (subject to entry as a dry colour under item 246), calcium magnesium chloride, calcium potassium chromate, calcium potassium thiosulphate, chlorobromides, chlorochromates, chloroiodates, chloroiodides, chlorovanadates, cobaltionitrites (subject to entry as a dry colour under item 246), copper mercury iodide, copper oxychloride sulphate, ferric potassium thiocyanate, ferrous potassium thiocyanate, germanosulphates, hexa-amminonickel nitrate, lead potassium thiosulphate, magnesium sodium phosphate, magnesium sulphate-potassium sulphate, containing, in the dry state, more than 30 per cent by weight of K_2O , molybdophosphates, phosphosilicates, phosphostannates, potassium chlorochromate, potassium cobaltinitrite (subject to entry as a dry colour under item 246), potassium selenate, potassium tellurate, potassium thiocarbonates, reineckates, selenocarbonates, selenocyanates, selenosulphates, selenosulphides, sodium dithionate, sodium phosphoaluminate, sodium selenates, sodium selenites (subject to entry as a dry colour under item 246), sodium tellurates, sodium zirconium sulphate, tellurocarbonates, tellurocyanates, tetra-amminonickel nitrate, thio-antimonates, thio-arsenates, thiocarbonates,

thiomolybdates, thiostannates, thiotellurates, tungstoborates, tungstophosphates and zinc thiophosphate (also subject to end-use item 220e). Ammonium sodium hydrogen orthophosphate is now entered under tariff item 218 at rates of Free and 25 p.c.; there were pleas for continuation of free entry or the lower rates provided for certain end-uses; there were also pleas against increases in rates. For all these products the Board recommends rates of Free and 15 p.c.

Ammonium nickel sulphate, believed to be produced in Canada in significant quantities, is ruled to be so produced in the technical or commercial grade and, as such, entered under tariff item 711 at rates of 15 p.c. and 20 p.c. whereas the other grades are entered under tariff item 208t at rates of Free and 15 p.c. For the technical or commercial grade the Board recommends rates of 10 p.c. and 15 p.c. and, for the others, continuation of the rates of Free and 15 p.c.

Ammonium zinc chloride is produced in two forms: a "double" and a "triple" ratio salt; its major use is in the galvanizing of steel. The sole Canadian producer makes only the triple ratio salt; it could also produce the double ratio salt, but only in solution. Of the two major users in Canada, one uses the double ratio salt but lacks the space needed for storing the product in solution so it must import its requirements. In 1961, the total market for both forms was appreciably less than 1,000 tons annually; imports, all of the double ratio salt, were 240 tons in 1963 and came from the U.K., Belgium and Luxembourg and the U.S.A. The product is dutiable at 15 p.c. and 20 p.c. under tariff item 711. The producer proposed that these rates be continued; there were no other representations. Though the two salts are competitive, there is only one producer and it does not produce material suitable for one part of the market. The Board is recommending rates of 10 p.c. and 15 p.c. on the product.

The chlorophosphates are now entered under paragraph (i) of the basket-item 220a for chemical preparations compounded of more than one substance, at rates of 15 p.c. and 20 p.c. There does not appear to be any reason to distinguish these products from the majority of those in this Recommended Item and the Board is recommending rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.49 Colloidal precious metals; amalgams of precious metals; salts and other compounds, inorganic or organic, of precious metals, including albuminates, proteinates, tannates and similar compounds, whether or not chemically defined:			
(1) Other than the following	Free	15	25
(2) Amalgams of precious metals: gold, iridium, osmium, palladium, platinum, rhodium, ruthenium and silver	15	20	25
(3) Auric chloride (gold chloride)	10	15	25

28.49

(Cont'd)	(4) Colloidal suspensions of precious metals: gold, iridium, osmium, palladium, platinum, rhodium, ruthenium and silver	15	20	25
	(5) Gold sodium cyanide	15	20	20
	(6) Silver bromide	10	15	20
	(7) Silver chloride	10	15	20
	(8) Silver cyanide	10	15	20
	(9) Silver iodide	10	15	20
	(10) Silver nitrate	10	15	20

The Industry Committee estimated total imports of products in this Recommended Item to be in the vicinity of \$50,000 yearly. No representations of substance were made to the Board concerning the products in issue and little published information appears to be available.

Of the products involved auric chloride, gold sodium cyanide, silver bromide, silver chloride, silver cyanide, silver iodide and silver nitrate are now ruled to be made in Canada; they consequently bear rates of 15 p.c. and 20 p.c. under tariff item 711; for them the Board recommends rates of 10 p.c. and 15 p.c.

The amalgams of precious metals: gold, iridium, osmium, palladium, platinum, rhodium, ruthenium and silver are now entered, as unenumerated products, under tariff item 711 at rates of 15 p.c. and 20 p.c. An amalgam is an alloy of mercury with one or more other metals and has not heretofore been considered as a chemical in the Canadian customs administration. No representations were made to the Board concerning amalgams. For uniformity of nomenclature the Board is recommending their classification in this Recommended Item and continuation of the existing rates of 15 p.c. and 20 p.c.

The colloidal suspensions of the precious metals, subject to the special end-use provisions of tariff item 246c, 263c or 490, are now entered, under tariff item 220a(i) at rates of 15 p.c. and 20 p.c. when they contain protective colloids; when they contain no such colloids they are entered under tariff item 711 at rates of 15 p.c. and 20 p.c. and are not regarded as chemicals. No representations were made concerning these colloidal suspensions and, as for the amalgams, the Board is recommending continuation of the existing rates of 15 p.c. and 20 p.c.

Certain preparations, when for use in the production of sulphuric acid, are now eligible for free entry under end-use item 490. The Board was informed that this use has become obsolete.

Among the other products covered by this Recommended Item auric hydroxide, chlorauric acid, chloroplatinic acid, chloroplatinous acid and hexahydroplatinic acid are entered under tariff item 216 at rates of Free and 15 p.c.; auric oxide, aurous chloride, aurous oxide, barium cyanoplatinite, chloroiridates, chloroiridites, chloro-osmates, chloro-osmites, chloropalladates, chlororhodites, cyanopalladites, cyanorhodites, gold cyanide, gold sulphide, iridium ammino compounds, iridium chloride, iridium double sulphates, iridium oxide, iridium

tetrahydroxide, osmiamates, osmium dioxide, osmium tetrachloride, osmium tetroxide, osmium trichloride, palladium diamines, palladium hydride, palladonitrites, pallado-oxalates, palladous chloride, palladous oxide, palladous sulphate, platinic oxide, platinous oxide, platinum ammino compounds, platinum chloride, platinum phosphide, platinum silicide, potassium aurocyanide, potassium chloropalladate, potassium cyanoplatinite, potassium osmate, rhodium hydroxide, rhodium nitrate, rhodium nitrites, rhodium oxide, rhodium sodium chloride, rhodium sulphate, rhodium trichloride, ruthenium dioxide, ruthenium nitrites, ruthenium tetrachloride, ruthenium tetroxide, ruthenium trichloride, silver acetate, silver albuminates, silver benzoate, silver butyrate, silver cinnamate, silver citrate, silver dichromate, silver fluoride, silver lactate, silver nitride, silver nucleates, silver nucleinates, silver oxalate, silver oxide, silver peptonates, silver permanganate, silver peroxide, silver phosphate, silver picrate, silver proteينات, silver salicylate, silver sulphate, silver sulphide, silver tannates, silver tartrate, silver thiocyanate, silver valerate, silver vitellinates, sodium aurothiocyanate, sodium aurothiosulphate and thiopalladates are entered under tariff item 208t at rates of Free and 15 p.c.; silver azide and silver fulminate are entered under tariff item 666 at specific rates of $1\frac{3}{4}$ cent and $2\frac{1}{4}$ cents per pound. For all these products the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.50 Fissile chemical elements and isotopes; other radio-active chemical elements and radio-active isotopes; compounds, inorganic or organic, of such elements or isotopes, whether or not chemically defined; alloys, dispersions and cermets, containing any of these elements, isotopes or compounds	Free	Free	Free
28.51 Isotopes and their compounds, inorganic or organic, whether or not chemically defined, other than isotopes and compounds falling within Recommended Item 28.50	Free	Free	Free

Many of the products of these two Recommended Items are entered free of duty under tariff item 237: actinium, actinium 228, americium, astatine, berkelium, bismuth 210, caesium 137, calcium 45, californium, carbon 13 enriched, carbon 14, chlorine 36, chromium 51, cobalt 60, curium, einsteinium, fermium, francium, gold 198, hydrogen 3, iodine 131, iodine 132, iron 59, irridium 192, krypton 85, lawrencium, mendelevium, neptunium, nobelium, palladium 109, phosphorus 32, plutonium, plutonium 239, polonium, polonium 210, polonium 212, potassium 40, potassium 42, promethium, protactinium, sodium 24, strontium 90, sulphur 35, sulphur 38, technetium, thulium 170, uranium 233, xenon 133 and yttrium 90. A group is entered at rates of Free and 15 p.c. under tariff item 208t: carbon 13 natural, deuterium, heavy acetylene,

heavy methane, lithium 6, lithium 7, nitrogen 15, plutonium carbides, plutonium dioxide, plutonium nitrate, plutonium nitride, plutonium tetrafluoride, polonium, potassium 40, rubidium 87, triuranium octoxide, uranates, uranium dicarbide, uranium dioxide (also subject to end-use items 246b and 246c), uranium hexafluoride, uranium monocarbide, uranium peroxide (also subject to end-use items 246b and 246c), uranium tetrafluoride, uranium trioxide (also subject to end-use items 246b and 246c), uranous oxide, uranyl nitrate and uranyl sulphate. A still further group is entered free of duty under tariff item *333: radium, radium bromide, radium chloride, radium sulphate and radon; this group, not within the Reference, is relocated in Recommended Item 28.50 for uniformity of nomenclature without change in rates of duty. Deuterium oxide, natural uranium and uranium 235, now entered free of duty under tariff item *237a are likewise relocated in these two Recommended Items for uniformity of nomenclature without change in rates of duty. The heavy acetic acids of Recommended Item 28.51 are now entered at Free and 15 p.c. under tariff item 216. Radio active isotopes for the use indicated, qualify for free entry under tariff item 247 or 921. Cermets are dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c. Mixtures containing fissile or radio-active chemical elements and isotopes used solely for their radio-active properties would be in this Recommended Item and are now entered under tariff item 220a(i) at 15 p.c. and 20 p.c.

Only one company, Merck Sharp and Dohme of Canada Limited made representations to the Board regarding products of Recommended Items 28.50 and 28.51. This company is the world's largest producer and supplier of organic and inorganic compounds "labelled" with isotopes and in 1960 reported sales of approximately \$250,000 of such products, about 70% of which was for export, mainly to U.S.A. Canada and the U.S.A. are the principal markets. Atomic Energy of Canada Limited is the only other Canadian producer of labelled compounds. Neither company manufactured the isotopes.

Merck Sharp and Dohme urged that all products of Recommended Items 28.50 and 28.51 continue to be duty-free under all Tariffs and Eldorado Mining and Refining Limited proposed that natural, enriched and depleted uranium metals, salts, compounds and gases be also duty-free under all Tariffs. The Industry Committee recommended that radium be removed from item *333 and relocated without any change in the existing rates under Recommended Item 28.50 and that deuterium oxide, from item *237a, be relocated under Recommended Item 28.51 without change in the existing rates.

No other representations were made relating to products of Recommended Items 28.50 and 28.51.

The Board recommends free entry under all Tariffs for the products of Recommended Items 28.50 and 28.51.

Recommended ItemB.P. M.F.N. G.T.

28.52 Compounds, inorganic or organic, of thorium, of uranium depleted in U 235, of rare earth metals, of yttrium or of scandium, whether or not mixed together:

(1) Other than the following	Free	15	25
(2) Thorium oxide (thorium dioxide)	10	15	25

Most of the products of this Recommended Item are now entered under tariff item 208t at rates of Free and 15 p.c. as chemicals of a kind not produced in Canada; they include the following products, some of which are subject to the end-use provisions of tariff items noted in parentheses following the product: ammonium ceric nitrate, ceric hydroxide (246c), ceric oxide (246c), ceric sulphate (203d, *621), cerous chloride (*621), cerous hydroxide (246c), cerous nitrate (*621), cerous oxalate, cerous oxide, cerous sulphate, didymium chloride (246c), didymium fluoride (246c), didymium nitrate (246c), didymium oxide (246c), europium chloride, europium fluoride, europium nitrate, europium oxalate, europium oxide, europium sulphate, rare earth fluoride, rare earth oxide, samarium oxide, terbium chloride, terbium fluoride, terbium nitrate, terbium oxide, terbium sulphate, thorium acetate, thorium acetylacetonate, thorium benzoate, thorium carbide, thorium chloride, thorium fluoride (*621), thorium formate, thorium hydroxide, thorium nitrate (*621), thorium nitride, thorium oxalate (*621), thorium oxychloride, thorium sulphate (*621), thorium sulphate, acid, thorium tartrate, triuranium octoxide, uranates, uranium dicarbide, uranium dioxide (246b, 246c), uranium hexafluoride, uranium monocarbide, uranium peroxide (246b, 246c), uranium tetrafluoride, uranium trioxide (246b, 246c), uranous oxide, uranyl nitrate, uranyl sulphate, yttrium acetate, yttrium antimonide, yttrium arsenide, yttrium bromide, yttrium carbonate, yttrium chloride, yttrium fluoride, yttrium nitrate, yttrium oxalate, yttrium oxide (246c), yttrium phosphide and yttrium sulphate. Existing item *621 would remain unchanged. The Board is recommending rates of Free and 15 p.c.

The compounds of uranium depleted in U 235, when derived from Canadian material, are now entered under tariff item 68ld, free of duty for use in Canadian manufactures; in Recommended Item R-34 the Board is recommending continued free entry without the end-use provision or the specification of Canadian origin.

Thorium oxide (thoria, thorium anhydride, thorium dioxide) is produced by Rio Tinto Dow. It is now ruled to be a chemical of a kind produced in Canada and, subject to the end-use provisions of tariff item *621 which would continue unchanged, is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. Its principal use is in the production of thorium metal for alloying with magnesium; in this use the most important consumer is Dominion Magnesium, Haley Station, Ontario, one of the three major consumers in the world. Rio Tinto Dow has a large share of the world thorium market; most of the Canadian production is exported to the United States and Britain in the form of concentrates; the company supplies practically the entire Canadian market. For thorium oxide the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.53 Liquid air (whether or not rare gases have been removed); compressed air	Free	Free	Free

It appears from the evidence that neither liquid air nor compressed air is an article of commerce in Canada or in the United States. The quantities used are produced as required. Liquid air has importance as an intermediate material from which atmospheric gases are separated in fractional distillation but is produced only as part of the process.

At present, liquid air and compressed air are dutiable at rates of 15 p.c., B.P., and 20 p.c., M.F.N. under tariff item 711. The Board finds no reason to perpetuate these rates and recommends free entry under all Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.54 Hydrogen peroxide (including solid hydrogen peroxide or urea peroxide)	Free	15	25

Hydrogen peroxide is available commercially as a liquid or, in combination with urea, as a solid known as urea peroxide. It is usually sold in concentrations of 35 or 50 per cent by weight of hydrogen peroxide.

The main uses of hydrogen peroxide are as a bleach for pulp and paper, textiles and other materials. In its applications as a bleach for pulp and paper and textiles it is substitutable for and competitive with sodium peroxide. The degree of substitutability received considerable emphasis at the public hearing.

There are two producers of hydrogen peroxide in Canada, both located in Ontario. The product is made by two principal processes, one chemical, the other electrolytic. The chemical process, due to its simplicity and economy, has led to a great expansion of European and North American productive capacity. It is used by one of the two Canadian producers. The other uses the electrolytic process.

The Canadian market for hydrogen peroxide was said to be growing rapidly. In 1960, it absorbed the equivalent of about 2.5 million pounds of 100 per cent hydrogen peroxide, mostly in the 35 and 50 per cent solution. At the published price of the 50 per cent solution in that year, this quantity would be valued approximately at \$1.5 million. It is estimated that in 1964, Canada consumed some 3.1 million pounds on a 100 per cent basis, with a value of only a little more than \$1.5 million at the lower price which prevailed in that year. Most of the market is in Ontario, Quebec and the Atlantic Provinces although hydrogen peroxide is used throughout Canada.

Imports of hydrogen peroxide have declined and were estimated in 1964 at 100,000 pounds on a 100 per cent basis. Production for that year on the same basis was 3.0 million pounds. Before 1960, the great bulk of the imports came from U.S.A. Since 1961, Austria has been the principal supplier of the much smaller imports. There appears to be no exports. Prices in Canada are a little higher than in the U.S.A.

Hydrogen peroxide in solutions containing 25 per cent or more of hydrogen peroxide is entered under item 219(ii) at rates of Free, B.P., and $22\frac{1}{2}$ p.c., M.F.N.; other solutions are imported at rates of $12\frac{1}{2}$ p.c., B.P., and $22\frac{1}{2}$ p.c., M.F.N., under item 219(i). The solid hydrogen peroxide, included in the present Recommended Item, is classified in the Canadian Customs Tariff under item 208t with rates of Free, B.P., and 15 p.c., M.F.N.

Both producers urged rates of 15 p.c., B.P., and 20 p.c., M.F.N. for hydrogen peroxide. The Canadian Pulp and Paper Association strongly opposed any increase in rates and the Canadian Pharmaceutical Manufacturers Association did not object to rates of 15 p.c., B.P., and 20 p.c., M.F.N., for chemicals made in Canada. There were no other representations.

Since it appears that solutions of hydrogen peroxide containing less than 25 per cent by weight of hydrogen peroxide do not ordinarily enter trade, tariff item 219(ii) would apply virtually to all imports. The proposal of the Canadian producers would increase the B.P. rate from Free to 15 p.c. and decrease the M.F.N. rate from $22\frac{1}{2}$ p.c. to 20 p.c.

In support of their proposal, the two Canadian producers called the attention of the Board to the excess Canadian productive capacity, the threat from excess production in Europe where wages are lower than in Canada and the substitutability of other chemicals, particularly sodium peroxide.

As in the case of sodium peroxide, for which it is substitutable, the Board recommends rates of Free, B.P., and 15 p.c., M.F.N. for hydrogen peroxide whether in solution or as a solid.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.55 Phosphides:			
(1) Other than the following	Free	15	25
(2) Iron phosphide (ferrophosphorus) used in the manufacture of steel or iron	Free	5	5

Aluminum magnesium phosphide, arsenic phosphide, barium phosphide, boron phosphide, cadmium phosphide, calcium phosphide, copper phosphide containing 8 per cent or more by weight of phosphorus, hydrogen phosphide, silicon phosphide, tin phosphide and zinc phosphide

are all now classified as phosphorus compounds of tariff item 208p and bear rates of Free, B.P., and 20 p.c., M.F.N. Iron phosphide, containing 15 per cent or more by weight of phosphorus, when not subject to end-use item *375(f) for the manufacture of steel or iron, is entered under tariff item 711 at 15 p.c. and 20 p.c.; it is produced in Canada by one company, Electric Reduction Co. Ltd.; an estimated 250 tons is used annually in the production of steel; a new use is in shielding in nuclear applications; there are occasional small exports; Electric Reduction proposed rates of Free and 15 p.c. Aluminum magnesium phosphide and calcium phosphide were also the subject of rate proposals of Free and 15 p.c. by Electric Reduction Company. All these rate proposals of the company were subject to the qualification that upon commencement of Canadian production, rates of 15 p.c. and 20 p.c. would apply; until then they would involve a reduction of 5 per cent in the M.F.N. rate. For all these products the Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Iron phosphide (ferrophosphorus) provides a nomenclature problem in relation to tariff item *375(f) which would remain unchanged and provides for "all alloys used in the manufacture of steel or iron, n.o.p."; to avoid possible conflict between the "n.o.p." provision of tariff item *375(f) and the iron phosphide in this Recommended Item, the Board is recommending the addition of a specific provision for iron phosphide "used in the manufacture of steel or iron" opposite which it has placed rates of Free, 5 p.c. and 5 p.c., those now in effect in tariff item *375(f).

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.56 Carbides (for example silicon carbide, boron carbide, metallic carbides):			
(1) Other than the following	Free	15	25
(2) Artificial abrasive grains, crushed or ground	Free	Free	Free
(3) Calcium carbide	5	10	20

Aluminum borocarbide, aluminum carbide, barium carbide, boron carbide, chromium carbide, manganese carbide, molybdenum carbide, niobium carbide, silicon carbide, tantalum carbide, titanium carbide, titanium carbonitride, tungsten carbides, vanadium carbide, zirconium carbide and zirconium carbonitride were not the subject of representations to the Board. As chemicals of a kind not produced in Canada, they are all subject to entry under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N. Molybdenum carbide in its alloy form and the tungsten carbides with binders of other substance are classified in tariff item 711 and would be classified in Recommended Item 38.19. For all the products above belonging in the present Recommended Item, the Board recommends continuation of the existing rates of Free and 15 p.c.

Tariff item *671, not within the scope of the Reference, provides free entry for "artificial abrasive grains, crushed or ground". These include some of the carbides of the present Recommended Item.

For them, the Board recommends continued free entry. For the artificial abrasive grains, which are not chemically defined, the Board recommends also continuation of free entry under Recommended Item R-33.

Calcium carbide is used to produce acetylene gas by the mere addition of water and to produce calcium cyanide; 90 per cent of the production of calcium carbide is captive; the small part of the total output used to generate acetylene gas for welding accounts practically for all commercial sales in Canada. There are two producers in Canada with a combined annual productive capacity of 465,000 tons or about 40 per cent of the estimated capacity in North America; the two plants are amongst the largest on the continent; in 1961, one plant was stated not to have operated at capacity since 1951. The domestic sales are about 24,000 tons annually with a value of \$2 million. The only export data available are for exports to the U.S.A.; these amounted to about 6,000 tons annually with a value between \$350,000 and \$435,000 in the four years 1960 to 1963 but, in 1964, they rose sharply to 12,051 tons valued at \$770,000. Total sales including exports were around 30,000 tons annually valued at \$2.5 million during the period 1960-63 and more than 36,000 tons valued at \$3.0 million in 1964. There are also exports to South America, Central America and the West Indies. In recent years imports have averaged about 600 tons annually and have, therefore, been a minor factor in the Canadian market; most of them are believed to be in British Columbia and Alberta, remote from the two Canadian sites of production in Ontario and Quebec, respectively; even in British Columbia and the Prairie Provinces, the Canadian producers supply 90 per cent of the 6,700 ton regional requirement. The extent of exports is not published but the available data indicate that they exceed imports by a wide margin. Virtually all imports into the U.S.A. are from Canada; one producer has an advantage over U.S.A. plants in deliveries to northeastern U.S.A. Transportation costs are an important consideration: on deliveries to British Columbia and Alberta they would be of the order of 40 per cent to 65 per cent of the contract price, f.o.b. plant. Calcium carbide is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. One of the producers, Shawinigan Chemicals Ltd., urged continuation of these rates; no other representations were made. The company stressed potential competition from plants in the U.S.A. closer to half the Canadian market than the Canadian plants; the U.S.A. plant locations were Niagara Falls, N.Y., Ashtabula, Ohio, and Portland, Oregon; the Canadian plants are at Shawinigan, Quebec, and Niagara Falls, Ontario; of the domestic sales almost three-quarters are made east of Manitoba where the Canadian producers generally have freight advantage over outside producers; in recent years Canadian producers have supplied 95 per cent or more of the commercial sales and imports have been almost entirely to the westernmost provinces. The Canadian plants are large by world standards. The Board recommends rates of 5 p.c. and 10 p.c. for calcium carbide.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
28.57 Hydrides, nitrides and azides, silicides and borides:			
(1) Other than the following	Free	15	25

28.57

(Cont'd) (2) Artificial abrasive grains,
crushed or ground
(3) Sodium azide

Free	Free	Free
10	15	25

Aluminum boride, aluminum-lithium hydride, aluminum nitride, antimony boride, antimony hydride, arsenic hydride, boron hydrides, boron nitride, calcium boride, calcium hydride, calcium silicide, chromium silicides, copper silicide, hafnium nitride, iron boride, lead hydride, lithium hydride, magnesium boride, magnesium silicide, manganese boride, manganese silicide, molybdenum boride, nickel hydride, niobium boride, niobium nitride, potassium borohydride, potassium hydride, silicon hydride, silicon nitride, sodium borohydride, sodium hydride, strontium hydride, tantalum boride, tantalum nitride, tin hydride, titanium boride, titanium hydride, titanium nitride, tungsten boride, vanadium boride, vanadium nitride, zirconium boride, zirconium hydride and zirconium nitride are now entered under tariff item 208t, as chemicals of a kind not produced in Canada, at rates of Free, B.P., and 15 p.c., M.F.N.; lead azide is entered under tariff item 666 at rates of $1\frac{3}{4}\%$ and $2\frac{1}{4}\%$ per pound and phosphorus nitride, under tariff item 208p at rates of Free and 20 p.c. There are virtually no published data concerning these products. They appear to be of minor economic importance. The Board recommends rates of Free and 15 p.c.

Some products of this Recommended Item such as chromium silicide are abrasives. These are entered under tariff item *671 which is outside the scope of the Reference. Tariff item *671 provides free entry for "artificial abrasive grains, crushed or ground". The Board recommends continued free entry for the artificial abrasives that belong in this Recommended Item as well as for those which are not chemically defined products under Recommended Item R-33.

Sodium azide is produced by one Canadian company which is the only producer in North America; it is used in the production of lead azide for commercial detonators and also, in the U.S.A., for the prevention of stain in sugar pine lumber. Production is under 100,000 pounds annually with a value of less than \$150,000; about 90 per cent of the output is exported to the U.S.A. to supply about two-thirds of that country's requirements; West Germany also exports to the U.S.A.; up to the time of the hearing, in 1961, none had been imported into Canada. Sodium azide would be entered under tariff item 711 at rates of 15 p.c. and 20 p.c.; the Canadian producer urged continuation of these rates because of possible European exports if the Canadian market expanded and because of rumours of initiation of production in the U.S.A. The Canadian use appears to be less than 10,000 pounds annually and there do not appear to be indices of large increase in use. Sodium was represented as constituting 16 per cent of the total cost of producing sodium azide; sodium for this purpose is imported from the U.S.A. and is dutiable at 15 p.c.; in Recommended Item 28.05 the Board has recommended free entry under all Tariffs for sodium. For sodium azide the Board recommends rates of 10 p.c. and 15 p.c.

Recommended ItemB.P. M.F.N. G.T.

28.58 Other inorganic compounds (including distilled and conductivity water and water of similar purity); amalgams, except amalgams of precious metals:

(1) Other than the following	Free	15	25
(2) Amalgams, except amalgams of precious metals	15	20	25
(3) Calcium cyanamide containing, in the dry state, more than 25 per cent by weight of nitrogen	Free	Free	Free
(4) Cyanogen bromide	Free	Free	Free

Alkali amides, amino-mercuric chloride, arsenic oxysulphide, carbon chlorosulphide, carbon oxysulphide, conductivity water, cyanamide, cyanogen, cyanogen chloride, electro-osmotic water, halogen compounds of cyanogen, metal amides, metallic derivatives of cyanamide other than calcium cyanamide, non-metallic chlorosulphides, non-metallic oxysulphides, potassium amides, silicon oxysulphide, sodium cyanamide and thiophosgene are all products entered, as chemicals of a kind not produced in Canada, under item 208t at rates of Free, B.P., and 15 p.c., M.F.N.; phosphonium iodide and phosphorus chlorosulphide are subject to entry under tariff item 208p at rates of Free and 20 p.c. The Board recommends, for all these products, rates of Free and 15 p.c.

Amalgams of alkali metal, alkaline earth metals, aluminum, antimony, antimony-tin, bismuth, cadmium, copper, copper-tin, lead, sodium, tin and zinc are now entered, as unenumerated products, under item 711 at rates of 15 p.c. and 20 p.c. An amalgam is an alloy of mercury with one or more other metals and has not heretofore been considered as a chemical in the Canadian Customs administration. No representations were made to the Board concerning amalgams; it is recommending continuation of the existing rates of 15 p.c. and 20 p.c.

Calcium cyanamide containing, in the dry state, more than 25 per cent by weight of nitrogen is classified in this Recommended Item. It is not produced in Canada; there is production of calcium cyanamide in Canada by one producer, but it does not contain as much as 25 per cent by weight of nitrogen so it would be classified in Recommended Item 31.00. Calcium cyanamide is now entered free of duty under all Tariffs under tariff item 663a and the Board recommends continued free entry.

Cyanogen bromide is entered free of duty under tariff item 208. The Board recommends continued free entry.

Distilled water is now subject to entry as an unenumerated product under tariff item 711, at rates of 15 p.c. and 20 p.c.; it was not the subject of any representations to the Board. For it the Board is recommending rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.01 Hydrocarbons:			
(1) Other than the following	Free	15	25
(2) Acetylene	10	15	25
(3) Benzene	Free	Free	Free
(4) Butadiene	Free	Free	Free
(5) Butanes	10	12½	25
(6) Butylenes (butenes)	Free	Free	Free
(7) Camphene	Free	Free	Free
(8) Cyclopropane, for anaesthetic purposes	10	15	25
(9) Dipentene	Free	Free	Free
(10) Essential oils, natural or synthetic, of this item	Free	7½	7½
(11) Ethylene	Free	Free	Free
(12) Hexanes	Free	Free	Free
(13) alpha Methylstyrene	10	15	25
(14) Naphthalene	10	15	25
(15) "Deleted"			
(16) Pinenes	Free	Free	Free
(17) Propane	10	12½	25
(18) Propylene	Free	Free	Free
(19) Styrene	10	15	25
(20) p-Terphenyl	10	15	25
(21) Toluene	Free	Free	Free
(22) Xylenes	Free	Free	Free

This Recommended Item includes a number of products on which little or no published information is available. These products include the following which, apart from the end-use provisions, indicated in parentheses, would now be entered under tariff item 208t at Free, B.P., and 15 p.c., M.F.N.: acenaphthene (203f, 219a, 791, 921), allene, allylene, amylenes, anthracene, butyne-1, cyclobutane, cyclobutene, cyclohexene, cyclo-octatetrene, cyclopentene, cyclopropane other than for anaesthetic purposes, meta-cymene (851, 921), ortho cymene (851, 921), decahydronaphthalene, diphenyl, diphenylmethane, divinylbenzene (921), ethane, ethylmethylethylene, fluoranthene, fluorene (791), heptylenes (220e), hexacontanes, hexylenes, isoprene (851, 921), isopropylethylene, methylallene, methylanthracenes, methylstyrenes other than alpha-methylstyrene, methylvinylacetylene, octanes, octylenes, pentadecanes, phenanthrene (203f), propylethylene, pyrene, terphenyls other than p-terphenyl, tetracine, tetrahydronaphthalene, triacontanes, triphenylmethane (203f) and vinylacetylene (851); of these, pentadecanes and triacontanes may also be entered under tariff item 269; three further products, cyclopentane, decanes and heptane, are now entered under tariff item 269; para-cymene is entered under tariff item 261 (851, 921). (Note on end-use items: 219a see Recommended Item 38.11, 791 see Recommended Item R-35, 851 would remain unchanged). For all these products the Board recommends rates of Free and 15 p.c.

Acetylene can be produced from two different raw materials:

calcium carbide or petroleum hydrocarbons. In Canada it has hitherto been made from calcium carbide but the largest producer, Shawinigan Chemicals Company Limited, is now in a position to use both methods. Acetylene is usually transported in steel cylinders made in the U.S.A. which, because of their heavy weight, make transportation costs high; this factor has contributed to generation of acetylene near the site of consumption with the result that there are 43 such generating plants across the country, though only four companies sell acetylene in cylinders. In Canada, the merchant sales of acetylene in cylinders are largely for cutting, brazing, welding and hardening metals, uses in which propane, natural gas and arc-welding compete. Perhaps 90 per cent of the total production of acetylene in Canada is used captively by Shawinigan Chemicals, in the production of intermediates for synthetic resins and other chemicals of substantial commercial importance. Because of transportation costs there is virtually no foreign trade in acetylene, though there is in the raw material calcium carbide (Recommended Item 28.56). Prices in Canada were represented to be less than 15 per cent higher than those in the U.S.A. Acetylene is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. Two of the producers and distributors urged continuation of these rates. The plea was based on the claimed vulnerability of some 40 per cent of the Canadian market to competition from the U.S.A., the economies of scale available to U.S. producers, the 20 p.c. M.F.N. customs duty on calcium carbide (for which the Board recommends 10 p.c. in Recommended Item 28.56), the 25 p.c., M.F.N. rate on acetone (for which the Board recommends 15 p.c. in Recommended Item 29.13) and the 25 per cent higher cost of the generators, cylinders and compressors unavailable from Canadian sources. Nevertheless, much emphasis has been placed upon the importance of freight costs and plant location; most sales are in cylinders and in small amounts where service and distribution give local suppliers an advantage. The loss of economies of scale appears to be offset by the savings in transportation costs. The concern of Shawinigan Chemicals appeared to be the spectre of possible pipeline supply across the border. For acetylene, the Board recommends rates of 10 p.c. and 15 p.c.

Benzene, toluene and xylenes are produced as co-products and commonly known as "BTX's". Canadian production has a value of about \$20 million per year, of which \$2 million to \$5 million represents the value of exports. In the late 1950's, imports far exceeded exports but, by 1962, exports were valued at more than three times the value of imports. However, in 1964, imports and exports were in approximate balance at \$5 million, owing mainly to large imports of benzene which contained a substantial portion of a crude naphtha product. The principal sources are coal and petroleum; in the existing tariff, the classification and tariff rates vary with the source of the product. Of the BTX's, both sources give larger volumes of benzene than of toluene or xylene. All three are produced in Canada from both sources.

For benzene, apart from a large captive use by two producers, there was by 1962 a commercial market for 30 million gallons, valued at close to \$10 million; in the same year there were imports into the U.S.A. from Canada of 12 million gallons valued at \$4 million; imports into Canada which were as high as 8 million gallons in 1958, declined to about one million in 1962, were lower still in 1963 but reached 150 million pounds (about 17 million gallons) in 1964; the predominant

use of benzene is in the manufacture of styrene for synthetic rubber: some 10 million gallons in 1961. About one-fifth of our total supply is probably used captively.

Toluene has been used largely in gasolines and as a solvent; an increasing volume goes to explosives, plastics and chemicals; our production is probably in excess of 12 million gallons, with a value in excess of \$3 million; a substantial part of our production is used captively; exports and imports have fluctuated markedly.

Xylene was produced in Canada only on a small scale till the early 1960's; in 1962, production was about 4 million gallons valued at nearly \$1.5 million; imports have fluctuated between 300,000 and 1,400,000 gallons with a value of \$100,000 to \$400,000; in 1963, there were exports to the U.S.A. of more than 1 million gallons valued at \$284,000, in 1962, 640,000 gallons valued at \$192,000 while exports in 1961 had been double those of 1962; the paint industry is the largest user of xylene and most of the remainder is used in primary plastics and other chemicals.

BTX prices in Canada appear to follow closely the delivered prices of the products from the U.S.A.; most imports are free of duty under end-use or drawback provisions or are subject to the low rates of tariff item 269. The BTX's are entered at rates of Free and 15 p.c. under tariff item 208t when chemically pure, at 1/3 cent per gallon under tariff item 269(ii) as petroleum products of less purity and at 15 p.c. and 20 p.c. under tariff item 711 as coal tar products of less purity; all three are subject to Free entry under both Tariffs for the end-use purposes of tariff items 791 (Recommended Item R-35), 851 which would remain unchanged and 863; coal tar benzene may be entered at 10 p.c. under both Tariffs for the end-use purpose of tariff item 263a and xylene, free of duty under both Tariffs for the end-use purposes of tariff item 921. There were varied rate proposals before the Board ranging from free entry to the oft-repeated 15 p.c. and 20 p.c. Three oil companies urged 15 p.c. and 20 p.c., four steel companies and Quebec Natural Gas Corporation urged $7\frac{1}{2}$ p.c. and 10 p.c. whereas Imperial Oil, the Plywood Manufacturers, the Rubber Association of Canada, R.J. Brown Co. of Canada and the Canadian Manufacturers of Chemical Specialties Association urged retention of the rates of tariff item 269(ii) or free entry; the ad valorem equivalent of tariff item 269(ii) at 1/3 cent per gallon is in the neighbourhood of 1 p.c. Some 75 per cent of our benzene imports are now entered under tariff item 269(ii). Imperial Oil estimated that any proposed duty would apply to less than 25 per cent of the benzene consumed in Canada because of export drawback and captive use of domestic production and that duty would be borne by Western Canadian users unable to buy BTX's from Central Canada competitively; the case for higher tariffs rested largely on potential competition from potential surpluses; there was no evidence to indicate higher domestic costs - indeed with the negligible protection of 1 p.c. there appeared to be no evidence of hardship. For the three BTX products, benzene, toluene and xylene, the Board recommends free entry under both Tariffs.

Butadiene, a chemical of petroleum origin, is produced by three companies. By 1961, the Canadian consumption of butadiene had reached 200 million pounds valued in excess of \$20 million and has undoubtedly increased since then; it has been imported from the U.S.A.

and Britain and essentially all imports, estimated at 10 to 12 per cent of domestic consumption in 1961, have been entered free of duty. Butadiene has been ruled made in Canada effective May 24, 1966 and consequently would be entered at rates of 15 p.c., B.P. and 20 p.c., M.F.N., under item 711 or free of duty under both Tariffs under the end-use provisions of tariff item 851 which would remain unchanged. According to evidence at the hearing, the product enters the United States free of duty and the only proposals before the Board were for free entry into Canada. The Board recommends free entry under all Tariffs for butadiene.

Butanes, iso-butane and n-butane were the subject of one representation; they are now entered under tariff item *275 at rates of 10 p.c. and $12\frac{1}{2}$ p.c. or under item *588a at a rate of 3 cents per one thousand cubic feet, M.F.N., when imported by pipeline. Tariff items *275 and *588a were not included in the scope of Reference 120. For simplification and uniformity, the Board recommends relocation of these products in this Recommended Item at the rates of item *275: 10 p.c. and $12\frac{1}{2}$ p.c.

Butylenes, alpha-butylene, beta-butylene, iso-butylene and n-butylene now enjoy the same tariff status as the butanes of the previous paragraph; however, because of evidence before it, the Board has included the butylenes of tariff item *275 as relevant to its inquiry; large quantities of butylene are produced in Canada; the consumption, in 1961, was estimated at 240 million pounds with a value of some \$5 million; Imperial Oil produces butylene for sale but a high proportion of the product is produced captively by chemical companies; imports, all from the U.S.A., are probably less than \$100,000 annually; there are no known exports. The proposal of Imperial Oil, supported by Polymer Corporation, was for free entry under all Tariffs and the Board recommends such free entry.

Camphene, a chemical represented as unlikely to be made in Canada because its source is a non-indigenous species of pine tree, is a raw material for synthetic camphor, iso-bornyl acetate and insecticides; subject to the end-use provisions of tariff item 791 (Recommended Item R-35), it is now subject to entry under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N. The Board recommends free entry.

Cumene was made by only one producer for only one consumer and may now be considered the subject of captive production because of a form of corporate marriage between the consumer and producer. Capacity has been reported as 7 million gallons annually. Its domestic use is almost entirely in making phenol and acetone. Potential exports to Canada from the U.S.A. because of surplus capacity were cited as a cause of apprehension; no imports have been reported. The Plywood Manufacturers expressed concern over any increase in rates. The producer sought the rates of item 711: 15 p.c. and 20 p.c. Subject to end-use item 921, cumene, if imported, would be entered under tariff item 208t at rates of Free and 15 p.c. and the Board recommends that these rates be continued.

Cyclohexane is made in Canada by only one producer, B.A. Oil, for only one consumer, Du Pont; productive capacity in 1965 was

estimated at 18 million gallons annually. Cyclohexane is used as a raw material to make adipic acid, an intermediate in the production of nylon 6/6; it was said to represent over half of the cost of raw materials in the production of nylon resins and to be a significant item in the cost of the nylon fibre. In the U.S.A., there are prospects of expansion in its use for making caprolactam from which nylon 6 is made. At present, announced developments in the field of nylon indicate that both Union Carbide and Courtauld's are undertaking the production of nylon 6, Union Carbide from imported caprolactam and Courtauld's from imported nylon polymer; in addition, C.I.L. will produce nylon 6/6 purchasing at least some of its polymer from Du Pont. With Canadian production of cyclohexane since late 1961, imports have ceased; there are no known exports. Cyclohexane would be entered under tariff item 208t at Free, B.P., and 15 p.c., M.F.N. However, most of the imports in the past were entered free of duty under the end-use provisions of tariff item 921. Both producer and consumer advocated rates of 15 p.c. and 20 p.c.; the producer, B.A. Oil, voiced apprehension about potential imports due to over-capacity in the U.S.A. and about scale of production; the consumer, Du Pont, which sought rates of 25 p.c. and 30 p.c. for the nylon polymer, urged the principle of tariffs adequate to give a domestic producer a large share - if not all - of the domestic market. The Board recommends rates of Free and 15 p.c.

Cyclopropane is produced in Canada by the E.R. Squibb company for anaesthetic use; for this use it is subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c.; otherwise, subject to end-use item 921, it would be entered under tariff item 208t at rates of Free and 15 p.c. Imports were reported to be \$120,000 in 1962. The Board recommends rates of 10 p.c. and 15 p.c., for anaesthetic purposes; otherwise, Free and 15 p.c.

Dipentene, like camphene, is derived from a non-indigenous species of pine tree; it is not used in Canada and would now be entered free of duty under the provisions of tariff items 261 and 921. The Board recommends continued free entry.

The essential oils of tariff item *264a were not referred to the Board; for uniformity of nomenclature it has sought to relocate them without change in rates. The essential oils of this item include terpinolene for which the Board recommends continuation of the existing rates of Free and $7\frac{1}{2}$ p.c.

Ethyl benzene is made by two producers, Dow Chemical and Polymer, in the course of styrene production; it is an intermediate not normally isolated. There is little information on its use, which is almost entirely captive; imports have dropped from about 850,000 gallons in 1956 to negligible amounts in recent years; in 1960, Dow Chemical, one of the two producers, reported the export of 5.5 million pounds (about 650,000 gallons) to its parent company in the U.S.A. owing to a then critical shortage of benzene; separate export statistics are not published. Ethyl benzene is now subject to entry, apart from the end-use provisions of tariff items 851, which would remain unchanged, and 921, under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N. Rates of 15 p.c. and 20 p.c. were proposed by Dow and B.A. Oil, the former urging these rates in conformity with proposals for styrene monomer, the latter, in conformity with BTX. The Board recommends rates of Free and 15 p.c.

Ethylene is produced in Canada by six producers with a total published production, in 1964, of 546 million pounds with a value in excess of \$25 million. Canadian production was represented to be efficient and competitive; merchant sales are relatively small, probably not more than 20 per cent of total production. Close to half of the consumption is used to produce polyethylene resins. It is not imported in commercial quantities; there are exports by Imperial Oil to the area of Buffalo, N.Y. Ethylene is subject to entry under tariff item 208t at rates of Free and 15 p.c. There is also free entry under end-use items 476b which would remain unchanged, 851 and 921. Only two companies, Dow Chemical and Imperial Oil, made representations to the Board. Dow sought rates of 15 p.c. and 20 p.c. because of possible establishment of production in the U.S.A. near the border and for uniformity of rate; Imperial Oil urged free entry on the principle of availability of basic hydrocarbons at low cost to the chemical industry, because protection appeared unnecessary on a cost basis, because protection favoured scattered small production units with higher costs, because transportation costs already provided protection and because of the widespread application of export drawback to the products made from ethylene. The Board recommends free entry under all Tariffs.

Hexanes were the subject of representations by six processors of vegetable oils; they are used as a solvent for the extraction of vegetable oils from seeds and are not produced in Canada; the six interests represented their consumption to be about 500,000 to 600,000 gallons per year suggesting a total market between 750,000 and 900,000 gallons annually valued at \$225,000 to \$300,000 delivered in Canada. Hexanes are now entered under tariff item 269(i) at rates of $\frac{3}{4}$ cent and 1 cent per gallon; at current prices these rates represent an ad valorem of about $3\frac{1}{2}$ p.c. and 5 p.c. The consumers urged continuation of these rates. The Board recommends free entry under all Tariffs.

alpha-Methylstyrene is produced in Canada for a very small market; B.A. Shawinigan, in 1961, reported production of 2 million pounds per year as a by-product of phenol from cumene. It is now dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c. which the company sought to have continued. The Board is recommending rates of 10 p.c. and 15 p.c.

Naphthalene is derived from both coal tar and petroleum; in 1961, Canadian production was from coal tar sources and much of the production was crude naphthalene; which is not in this Recommended Item; only one company, Dominion Tar, produces the refined product of this Recommended Item. The total market for naphthalene was estimated to be about 26 million pounds, with a value of about \$1 million; Canadian production was estimated at some 20 million pounds; over 80 per cent of our domestic consumption of naphthalene is in the production of phthalic anhydride; 80 to 85 per cent of Domtar's production is used captively for this purpose, the remainder being sold. The domestic market for refined naphthalene was estimated at about 3 million pounds with a commercial value of about \$300,000; imports of the refined product have been negligible since Domtar began to supply the product in 1960. The naphthalene of this Recommended Item is subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c.; because of the end-use provisions of items 219a (Recommended Item 38.11), 791 (Recommended Item R-35) and 851 which would remain

unchanged; almost all imports are entered duty-free under the M.F.N. Tariff. Domtar urged rates of 15 p.c. and 20 p.c. and the deletion of end-use provisions because of apprehensions arising from surplus foreign capacity which appeared to be coming into existence; Record Chemicals supported the rates of 15 p.c. and 20 p.c. Imperial Oil urged that care be taken not to jeopardize the duty-free entry into the United States of naphthalene with a solidifying point under 79°C. The Board recommends rates of 10 p.c. and 15 p.c.

Octanes were named in paragraph (15) of this item in the Recommended Schedule published in Volume 1 of this Report because of a misunderstanding; it was originally thought that they belonged in a tariff that was not within the Reference. They were not the subject of representations; they are now entered under tariff item 208t at rates of Free and 15 p.c.; the Board recommends the existing rates of Free and 15 p.c.

Pinenes, like camphene and dipentene, are derived from a non-indigenous pine tree; they are used as chemical intermediates in the manufacture of lubricating oil additives; they are now entered free of duty under all Tariffs under items 261 and 921, or under item 220e at Free, B.P., and 5 p.c., M.F.N., when used for lubricating oil additives. The Board recommends free entry.

Propane was the subject of one representation; it is now entered under tariff item *275 at rates of 10 p.c. and 12½ p.c. or under item *588a at a rate of 3 cents per one thousand cubic feet, M.F.N., when imported by pipeline. Tariff items *275 and *588a are not within the scope of the Reference. For uniformity of nomenclature the Board recommends relocation in this Recommended Item and rates of 10 p.c. and 12½ p.c.

The propylene currently consumed in Canada was represented as being almost all of a low purity beyond the scope of the present Reference. There appears to be adequate productive capacity in the country. Most production is captively used; merchant sales are quite limited in extent. Most of the consumption appears to be in the production of gasoline; beyond this use, about 70 million pounds were consumed in Canada in 1961, 75 million pounds in 1962 and 82 million pounds in 1963; both consumption and production will increase further when polypropylene is produced in Canada; imports and exports appear to have been of no significance. Propylene of petroleum origin is entered under tariff item *275 at rates of 10 p.c. and 12½ p.c. It is also subject to free entry under end-use item 851 which would remain unchanged. Because of the end-use provisions of tariff item 921, the controlling tariff on high purity propylene is free under both Tariffs. The only proposal before the Board was that of Imperial Oil for free entry under all Tariffs; the company is one of the four producers in Canada. Because of its relevance to this Recommended Item, the Board is including propylene in its study and report and recommends free entry under all Tariffs.

Styrene is produced in Canada by two companies: Dow Chemical and Polymer. Total productive capacity is at least 165 million pounds annually. Most of the production is used captively though there are two large volume purchasers. Styrene production for 1964 is estimated at 165 million pounds, exports at 10 million pounds and imports at 5 million pounds. About half of the domestic consumption is in the production of polystyrene resins and probably another 40 per cent in the production of synthetic rubber. Since 1964, the production of ABS (acrylonitrile - butadiene - styrene) resin is

supplying another important outlet for the product. Subject to the end-use provision of tariff item 851 which would remain unchanged, styrene is now dutiable at 15 p.c. and 20 p.c. under tariff item 711. Imports have never provided serious competition. There are exports to Britain but none to the U.S.A. Dow Chemical proposed continuation of the rates of 15 p.c. and 20 p.c. as being generally suitable for chemicals. The Board recommends rates of 10 p.c. and 15 p.c.

p-Terphenyl was not the subject of any representations. p-Terphenyl (scintillation grade) is now ruled to be made in Canada and is consequently dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c. The other grades are under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c. for all grades.

Vinyl toluene is now entered, as a chemical of a kind not produced in Canada, under tariff item 208t at rates of Free, B.P., and 15 p.c., M.F.N. It may also be entered free of duty under both Tariffs for the end-use purposes of tariff item 921. In 1962, imports were valued at about \$150,000; at the published price of 14 cents per pound this value suggests a volume of about one million pounds. The paint interests sought free entry for the product while it is not made in Canada; Dow Chemical urged rates of 15 p.c. and 20 p.c. because the product is competitive with styrene. The Board is recommending rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.02 Halogenated derivatives of hydrocarbons:			
(1) Other than the following	Free	15	25
(2) Carbon tetrachloride	10	15	25
(3) Chlorofluoroethanes	10	15	25
(4) Chlorofluoromethanes	10	15	25
(5) ortho-Dichlorobenzene	10	15	25
(6) para-Dichlorobenzene	10	15	25
(7) Essential oils, natural or synthetic, of this item	Free	7½	7½
(8) Ethyl chloride (chloroethane)	10	15	25
(9) Ethylene dibromide	Free	Free	Free
(10) Ethylene dichloride	10	15	25
(11) Methyl chloride	10	15	25
(12) Methylene chloride	10	15	25
(13) Perchloroethylene	10	15	25
(14) 1,1,1,-Trichloroethane (methylchloroform)	10	15	25
(15) Trichloroethylene	12½	17½	25
(16) Vinyl chloride (monochloroethylene)	10	15	25

On a number of products, little information was available to the Board. Among these were the following, all now subject to entry under tariff item 208t at rates of Free, B.P. and 15 p.c., M.F.N. Allyl bromide, allyl iodide, gamma-benzene hexachloride (791), ben-zidene chloride, benzotrichloride (203f), benzylchloride (203f), benzylidene chloride, bornyl chloride, bromoethane (219a, 791), bromoform, bromomethane (219a, 219e, 791), chlordane (791), chlorobenzene, chlorocamphene, alpha-chloronaphthalene, beta-chloronaphthalene, meta-dichlorobenzene, dichlorodiphenyldichloroethane (791), dichlorodiphenyltrichloroethane (219a, 791), 1,4-dichloronaphthalene, di-iodomethane, halothane (791), heptachlorodicyclopentadiene (219a, 791), hexachlorobenzene (791), hexachlorocyclohexane (791), hexachlorodiphenylmethane, hexachloroethane, HHDN (1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo-exodimethanonaphthalene) (791), iodoethane, iodoform, iodomethane, octachloronaphthalene, octachlorotetrahydro-4,7-endomethyleneindane, pentachlorodiphenyltrichlorobenzene (220f), trimethylene chlorobromide and vinylidene chloride (921). (Note on end-use items: 219a and 219e see Recommended Item 38.11, 220f remains unchanged and 791 see Recommended Item R-35). For all these products the Board recommends continuation of the rates of Free and 15 p.c.

Carbon tetrachloride is made in Canada by two producers with capacity to meet the existing market of some 10 million pounds and the needs of the foreseeable future. Exports to the U.S.A. were 3,367,000 pounds valued at \$276,000 in 1961 and 2,344,000 pounds valued at \$240,000 in 1962. Imports, apparently all from the U.S.A., were not significant in 1962 and 1963. No imports have been recorded recently from countries entitled to the British Preferential Tariff. About three-quarters of the domestic use is in the production of chlorofluorohydrocarbons and about 95 per cent of the domestic market is in the Province of Ontario. The price in the U.S.A has been 10.75 cents per pound since 1958; users in all parts of Canada can buy Canadian carbon tetrachloride at a laid-down cost below that of the product from the U.S.A. Carbon tetrachloride, A.R. grade, is now entered under tariff item 208t at Free and 15 p.c., and the product of other than A.R. grade, under tariff item 711 at rates of 15 p.c. and 20 p.c.; carbon tetrachloride is also entered under end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35). The two producers proposed rates of 15 p.c. and 20 p.c. Without distinguishing between grades the Board recommends rates of 10 p.c. and 15 p.c.

Of the chlorofluoroethanes and chlorofluoromethanes five are now produced in Canada by one producer, Du Pont: dichlorodifluoromethane, dichlorotetrafluoroethane, monochlorodifluoromethane, trichloromonofluoromethane and trichlorotrifluoroethane. A second producer is reported to be building a plant for the production of fluorinated hydrocarbons. As a group, shipments of the products have a value of several million dollars; imports in 1964 were valued at nearly \$620,000. Their main use is in aerosol propellants. Though imports supply only a small portion of the market, the significance of their influence in Canadian pricing was stressed. In bulk, there is little disparity between Canadian prices and those in the U.S.A. though, in cylinders, Canadian prices are higher. Subject to end-use items 791 (Recommended Item R-35) and 921, the five products now produced in Canada are entered under tariff item 711 at rates of 15 p.c. and 20

p.c., and those not produced in Canada, under tariff item 208t, at rates of Free and 15 p.c. The existing producer proposed rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Chloroform is made by C.I.L. at Shawinigan with a capacity of 150 tons per year; the market was estimated to be 300 to 400 tons a year in 1961. Imports, mostly from the U.S.A., were 489 tons in 1962; they dropped to 34 tons in 1963 but rose to 860 tons in 1964 valued at \$170,000 or about 10 cents per pound, a price which undoubtedly reflects importations of grades and quantities for use in the manufacture of chlorofluorohydrocarbon products which account for well over 50 per cent of the Canadian consumption. There are smaller requirements for pharmaceutical products and as an anaesthetic, particularly for veterinary purposes. Under tariff item 219d chloroform, for anaesthetic purposes, is entered free of duty under all Tariffs and otherwise at rates of Free and 20 p.c.; it is also subject to end-use items 791 (Recommended Item R-35) and 921. The producer sought rates of 15 p.c. and 20 p.c. Without distinction as to use, the Board recommends rates of Free and 15 p.c.

Ortho-dichlorobenzene, since 1961, has been produced by one manufacturer from an imported crude mixture. It occurs as a by-product of para-dichlorobenzene, in larger quantities than the market requires. Its uses are carbon removal, wool cleaning and as a raw material for dyes and other chemicals. Not being ruled to be made in Canada and subject to end-use items 219a (recommended Item 38.11), 791 (Recommended Item R-35) and 921, it is now entered under item 208t at Free and 15 p.c. The producer sought rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Para-dichlorobenzene has also been produced by one manufacturer, since 1961, from an imported crude mixture. There was a market, in 1961, of some 5 million pounds with a value of some \$600,000. Its principal uses are as an insecticide and deodorant. Before Canadian production began, the market was supplied by imports, largely from the U.S.A. but also from Britain and Continental Europe. There are no available figures to establish the proportion of the market now supplied by imports. Subject to end-use items 203f, 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), the product is now entered under tariff item 711 at 15 p.c. and 20 p.c., the rates proposed by the producer. The Board, as for ortho-dichlorobenzene, recommends rates of 10 p.c. and 15 p.c.

Of the essential oils in this item, only bromostyrene was brought to the Board's attention; it is not produced in Canada and there was no significant use for it in 1961. The essential oils are now entered under tariff item *264a which is not in the Reference, at rates of Free and $7\frac{1}{2}$ p.c. By mere relocation for uniformity of nomenclature the Board proposes continuation of the existing rates of Free and $7\frac{1}{2}$ p.c.

Since 1960, ethyl chloride has been produced by one company in Canada: the Ethyl Corporation. Formerly it had been made by another producer but on a smaller scale. The largest use of the product is in the manufacture of tetraethyl lead. Prior to 1961, imports, all from the U.S.A., were substantial - in excess of 20 million pounds; in 1961,

they declined to 322,000 pounds and were 10,000 pounds in 1964. A recent trade announcement indicated that Du Pont of Canada was entering the field of production of tetraethyl lead to become Canada's second producer with a productive capacity of 25 million pounds per year. No exports of ethyl chloride are reported. Subject to the end-use provisions of tariff items 219a (Recommended Item 38.11), 219d(1), 791 (Recommended Item R-35) and 851 which would remain unchanged, ethyl chloride is entered under tariff item 711 at rates of 15 p.c. and 20 p.c., rates proposed by both the former and the present producer; Ethyl Corporation, the present producer, represented that it had ample capacity to meet Canadian requirements. The Board recommends rates of 10 p.c. and 15 p.c.

Ethylene dibromide is not produced in Canada; the Ethyl Corporation appears to import over \$1 million worth of the product annually - some 95 per cent of our total consumption - for blending with tetraethyl lead in gasoline anti-knock compounds; for this purpose ethylene dibromide is entered free of duty under tariff item 263d. Subject to the end-use provisions of tariff items 791 (Recommended Item R-35) and 921 it would otherwise be entered under tariff item 208t at Free and 15 p.c. The Ethyl Corporation, which sought free entry for the product, estimated that domestic production would be twice as costly as importation; Dow Chemical, on the other hand, considered that domestic production would be of interest if there were a suitable source of bromine and a duty of 20 p.c. The Board recommends free entry.

At present, ethylene dichloride is made in Canada by only one producer, Dow Chemical, though it has recently been reported that Shawinigan Chemicals will probably produce it for its own use. In 1961, the total use was for some 50 million pounds, nearly all captive to Dow's production of vinyl chloride monomer; 50 million pounds would have a commercial value of some \$5 million. Imports appear to be negligible and there are no known exports. Though the Canadian price is higher than that in the U.S.A., it is lower than the laid-down cost of the product from the U.S.A. Subject to end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), the product is entered under tariff item 711 at 15 p.c. and 20 p.c. Both Dow Chemical and the Ethyl Corporation, the producer of tetraethyl lead in which ethylene dichloride is used, proposed rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Methyl chloride is produced, in conjunction with methylene chloride, by one producer. In 1964, imports amounted to 1.4 million pounds valued at \$143,000; 95 per cent of our consumption is in the manufacture of synthetic rubber by Polymer Corporation which was said to import part of its needs from the U.S.A. to maintain a second source of supply. Minor uses include refrigerants and chemical intermediates; the industrial grade is priced at 10 cents per pound in the U.S.A. whereas the refrigerant grade is priced at about 49 cents per pound. Most imports would be entered free of duty under the end-use provisions of tariff item 851 which would remain unchanged; otherwise the product could be dutiable under tariff item 711 at 15 p.c. and 20 p.c., the rates urged by the producer in order to deter imports. The Board recommends rates of 10 p.c. and 15 p.c.

Methylene chloride is produced by one manufacturer; hydrochloric acid and methyl chloride are saleable by-products. Imports, largely from Europe, are not very substantial: \$60,000 in 1962, \$80,000 in 1963. There are no exports. Domestic prices appear to be lower than those in the U.S.A. but higher than those in Europe. The lower prices of European imports were said to be important in the domestic producer's pricing policy. Except for the end-use provisions of tariff item 791 (Recommended Item R-35) when for use in insecticide aerosols, which accounts for about one quarter of the total market, the product is normally dutiable at 15 p.c. and 20 p.c. under tariff item 711. The Board recommends rates of 10 p.c. and 15 p.c.

Perchloroethylene is made in Canada by two producers with ample capacity to supply the market for 10 million pounds per year with a value of some \$1,250,000; over 90 per cent of the use is in dry cleaning. Imports in 1962 were valued at \$180,000 and in 1963, at \$60,000, a small part of the market. In 1964, exports to the U.S.A. were in the neighbourhood of \$128,000. Perchloroethylene, technical grade, is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. and when other than technical grade, under tariff item 208t at rates of Free and 15 p.c. The producers urged rates of 15 p.c., B.P., and 20 p.c., M.F.N. The Board recommends rates of 10 p.c. and 15 p.c. for all grades.

1,1,1-Trichloroethane (methylchloroform) is ruled made in Canada and consequently dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c. There were no representations about this product. The Board recommends rates of 10 p.c. and 15 p.c.

Trichloroethylene is made in Canada by the same two producers as perchloroethylene. There is a market for some 10 million pounds with a value of about \$1,200,000. Some 97 per cent of the use of the product was reported to be in the degreasing of metals. In 1962, there were European imports of \$550,000; in 1963, \$350,000. Exports to the U.S.A. in 1962 were 574,000 pounds valued at \$66,000. The product of technical grade is now entered under tariff item 711 at 15 p.c. and 15 p.c. and that of other than technical grade, under tariff item 208t at Free and 15 p.c. The producers sought rates of 15 p.c. and 20 p.c. As opposed to perchloroethylene, the import competition appears to be stronger and there appear to be less export possibilities. The Board recommends rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c.

Vinyl chloride is produced in Canada by two firms; it is used entirely in the production of polyvinyl chloride. One producer, Shawinigan Chemicals, has a large captive use, the other producer, Dow Chemical, sells largely to two buyers. Canadian capacity has been estimated at 140 million pounds annually; the producers have capacity to meet the expanding needs of the market and for exports. There are no known exports. There was evidence that overcapacity in the U.S.A. with a duty of about 40 p.c. precluded exports to that country. Shipping methods prevent sea transport. Vinyl chloride is now imported under tariff item 711 at 15 p.c. and 20 p.c. Both producers urged continuation of these rates. The perils of overcapacity elsewhere and the increase in costs of other operations, were there to be a loss of vinyl chloride business, were stressed. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.03 Sulphonated, nitrated or nitrosated derivatives of hydrocarbons:			
(1) Other than the following	Free	15	25
(2) Ammonium dodecylbenzene sulphonate	10	15	25
(3) Ammonium xylene sulphonate	10	15	25
(4) Dinitrotoluene	10	15	25
(5) Dodecylbenzene sulphonic acid	10	15	25
(6) Nitrobenzene	10	15	25
(7) Potassium toluene sulphonate	10	15	25
(8) Sodium dodecylbenzene sulphonate	10	15	25
(9) Sodium toluene sulphonate	10	15	25
(10) Sodium xylene sulphonate	10	15	25
(11) Toluene sulphonic acid	10	15	25
(12) Trinitrotoluene (TNT)	10	15	25

Alkylbenzenesulphonic acid, alkylbenzenesulphonic acid salts, benzenedisulphonic acids, benzenesulphonic acid, bromiodobenzene-disulphonic acid, bromiodobenzenesulphonic acid, bromonitromethane, 3-tert-butyl-2,6-dinitro-para-cymene, chloriodobenzenedisulphonic acids, chloriodobenzenesulphonic acids, chloronaphthalenesulphonic acids, chloronitrobenzene, chloronitromethane, chloronitrotoluene, meta-dinitrobenzene, dinitrobenzenesulphonic acids, dinitrostilbenzene-disulphonic acids, dinitrotoluenesulphonic acids, ethanesulphonic acid, ethylenesulphonic acid, iodobenzenedisulphonic acids, iodobenzene-sulphonic acids, iodonitromethane, iodotrinitromethane, moskene, musk xylol, naphthalenesulphonic acids, nitrobenzenesulphonic acids, nitroethane (921), nitromethane (921), nitronaphthalenesulphonic acids, nitropropane (921), nitrosobenzene, nitrosotoluene, nitrotoluene, nitrotoluenesulphonic acids, nitroxyline (921), pentachloronitrobenzene (791, see Recommended Item R-35), tolueneparasulphonyl chloride, trichloronitromethane (219e (Recommended Item 38.11), 791 (Recommended Item 35), 863) trinitrobenzenesulphonic acids, trinitromethane, trinitromethane, trinitrotoluenesulphonic acids and xylene sulphonic acids are (subject to the end-use provisions of the tariff items mentioned in parentheses) entered at rates of Free and 15 p.c. under tariff item 208t or 216. The Board recommends continued rates of Free and 15 p.c.

Ammonium dodecylbenzene sulphonate, ammonium xylene sulphonate, dodecylbenzenesulphonic acid, nitrobenzene, potassium toluene sulphonate, sodium dodecylbenzene sulphonate, sodium toluene sulphonate and sodium xylene sulphonate, as chemicals ruled to be of a kind produced in Canada, are now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. For them the Board recommends rates of 10 p.c. and 15 p.c.

Dinitrotoluene (DNT) and trinitrotoluene (TNT) are made in Canada only by C.I.L.; their only use in Canada is in the production of prepared explosives or, in the case of TNT, directly as an explosive.

The main use of TNT in Canada is in the production of slurry type explosives; it is also used in mixtures with pentaerythritol nitrate to produce initiatory explosives.

Dinitrotoluene, made from the same raw material and in the same equipment as TNT, occurs as an intermediate in the production of TNT and is not usually isolated, except when needed; it is used in certain commercial explosive formulations and in the production of certain plastics and dyestuffs.

From 1959 to 1962 there was no Canadian production of these two chemicals following a fire that destroyed the manufacturer's plant and during this period imports showed the market to average over 4.5 million pounds annually valued at about \$400,000. Of the total market DNT represents about 10 per cent. All imports are from the U.S.A.

Both products are imported free of duty under tariff item 758 for the manufacture of explosives and otherwise at rates of Free and 15 p.c. under tariff item 208t in the case of dinitrotoluene; TNT, for use directly as an explosive, may be entered under tariff item 666 at rates of $1\frac{3}{4}$ cent and $2\frac{1}{4}$ cents per pound, an ad valorem equivalent at 1962 prices of 10 to 14 p.c. and 11 to 18 p.c. depending upon grade. The producer proposed rates of 15 p.c. and 20 p.c. without end-use provisions; the proposal was based on the producer's efficiency, its capacity to supply the market and the need to encourage consumers to buy from the Canadian producer. The Board recommends rates of 10 p.c. and 15 p.c.

Toluene sulphonic acid, produced in Canada, is used as a catalyst in making phenolic formaldehyde resins; imports before 1961 were generally less than \$10,000 a year in value. Not having been ruled to be made in Canada, it is now entered, subject to end-use items 863 and 921, under tariff item 216 at rates of Free and 15 p.c. The plywood manufacturers of British Columbia urged that there be no change in rates. Lever Brothers, a manufacturer of surface-active agents, urge rates of 15 p.c. and 20 p.c., on the grounds that only a small part of the acid is used in making resin for plywood glues: 5,000 to 10,000 pounds out of a total Canadian production which might exceed 1.5 million pounds. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.04 Acyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Amyl alcohols	Free	Free	Free
(3) Butyl alcohols	10	15	25
(4) Essential oils, natural or synthetic, of this item	Free	$7\frac{1}{2}$	$7\frac{1}{2}$
(5) Ethylene glycol	10	10	25
(6) Hexylene glycols	10	15	25
(7) Isopropyl alcohol	10	15	25
(8) Methyl alcohol	5	10	20

29.04

(Cont'd) (9) Methylamyl alcohol (methyl isobutyl carbinol)	10	15	25
(10) 2-Methyl-2-n-propyl-1,3-propanediol	10	15	25
(11) Octanols	10	15	25
(12) Pentaerythritol	10	15	25
(13) n-Propyl alcohol	10	15	25
(14) Propylene glycol	10	15	25
(15) Sorbitol	10	15	25

On a number of alcohols in this Recommended Item, the Board has but little data; these include: acetone sodium bisulphite, allyl alcohol (791, 921), ceryl alcohol, cetyl alcohol (863, 865) chloral hydrate, 4-chlorbutan-1-ol, chlorbutol (921), dodecyl alcohol (921), ethchlorvynol, 2-ethyl butanol; 2-ethyl-1,3-hexanediol (219a, 791), ethylpropylallyl alcohol, formaldehyde sodium bisulphite, heptanols (921), hexanetriol, hexanol, mannitol, oleyl alcohol (220e, 921), pentanetriol and stearyl alcohol (865). These alcohols, are now entered under tariff item 208t, as chemicals of a kind not produced in Canada, at rates of Free, B.P., and 15 p.c., M.F.N.; they are also subject to the end-use item listed in parentheses. (For item 219a see Recommended Item 38.11 and for item 791 see Recommended Item R-35). The Board recommends continued rates of Free and 15 p.c.

The amyl alcohols were not the subject of representations before the Board. They are now entered free of duty under all Tariffs under tariff item 157a. The Board recommends continued free entry.

Butyl alcohols are made in Canada by three producers. Among the four butyl alcohols there is a high degree of substitutability. Production and consumption statistics are not published. Consumption was said to be several million pounds annually; in 1962 and 1963 imports were about 3.5 million pounds with a value of about \$500,000; they declined to 1.4 million pounds valued at \$168,000 in 1964. Normal-butyl alcohol is exported to Britain and Europe, though iso-butyl alcohol is not exported in significant amounts. Butyl alcohol is now entered under tariff item 207a at rates of Free, B.P., and 20 p.c., M.F.N.; however most imports are free of duty under the end-use provisions of tariff item 791 (Recommended Item R-35) for the manufacture of pesticides. Rates of 15 p.c. and 20 p.c. were proposed by two of the three producers, largely on the grounds of the general substitutability of all the C-4 alcohols among themselves. The Board recommends rates of 10 p.c., B.P., and 15 p.c., M.F.N.

The essential oils of this heading include citronellol, dimethyl octanol, geraniol, linalol, nerol, rhodinol and vetiverol; they are not made in Canada; consumption is small and imports are from Britain. They are now entered under tariff item *264a - which is not within the scope of this Reference - at rates of Free, B.P., and 7½ p.c., M.F.N. For uniformity of nomenclature the Board is including them in this Recommended Item at the present rates of Free and 7½ p.c.

Ethyl alcohol is not classified with the other acyclic alcohols in this Recommended Item; provision is made for it in Recommended

Items R-2 and R-3 by way of amendment to existing tariff item 156 (Now 15630-1).

Ethylene glycol is produced in Canada by Union Carbide Canada Limited at Montreal and by Dow Chemical at Sarnia, Ontario and Fort Saskatchewan, Alberta. Domestic capacity appears to be well in excess of the domestic market which is a little over 100 million pounds. The producers contended that the Canadian plants were at a cost disadvantage in relation to competitors in the United States because of "differences in investment (depreciation), raw materials, operating and distribution costs"; one consumer stated that the cost of 7 cents per pound achieved in the United States could be realized by a proposed plant in Edmonton. These views were presented in very general terms. Three-quarters of the consumption of ethylene glycol is in antifreeze preparations. This controversial phase is discussed in Recommended Item 38.19. For the past ten years, with the exception of 1959 and 1960, imports have been from the United States; in 1961, 1962 and 1963, they were less than 5 million pounds annually though they increased to almost 24 million pounds in 1964. Ethylene glycol is entered under tariff item 711 at rates of 15 p.c. and 20 p.c.; however, before 1964, only about 10 per cent of imports was entered under tariff item 711; the other 90 per cent was entered under three end-use items: 207b for use in the manufacture of explosives, free of duty, 207c for use in the manufacture of anti-freezing compounds, at 10 p.c., and 923 for use in the manufacture of synthetic resins, free of duty. From 1960 to 1964, practically all imports were subject to duty, a fact which justifies the assumption that little was imported free of duty for the manufacture of explosives or synthetic resins. The two producers sought rates of 15 p.c. and 20 p.c. and the removal of the end-use items which now provide for lower rates of duty. Two consumers, Radio Oil Refineries and Laurentide Chemicals, sought free entry for use in making anti-freeze compounds. On the subject of ethylene glycol there was somewhat heated conflict before the Board, a situation which contributed little to the ascertainment of essential facts; some totally irreconcilable statements were made without supporting data; indeed even such clear data as are available to the Board are not always relevant to the resolution of these conflicting statements. The Board recommends without distinction as to use, continuation of the rates now existing for ethylene glycol for use in the manufacture of anti-freezing compounds: 10 p.c., B.P., and 10 p.c., M.F.N.

Hexylene glycols are made in Canada by one producer. They are entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The producer urged that these rates were necessary to encourage production though no supporting evidence was adduced. The Board recommends rates of 10 p.c. and 15 p.c.

Isodecanol, nonanol (n-nonyl alcohol) and tridecanol are not made in Canada; at the time of the hearing they were not being used in Canada; Imperial Chemical Industries, a producer of these alcohols in Britain, foresaw a Canadian market in the very near future. These three alcohols are now dutiable under tariff item 208t at Free, B.P., and 15 p.c., M.F.N.; nonanol and tridecanol are also subject to entry free of duty under tariff item 921 for use in making certain plastics and tridecanol, to free entry under tariff item 865. Imperial

Chemical Industries sought continuation of the present rates as long as these chemicals were not produced in Canada; Shawinigan Chemicals pointed out their substitutability of other alcohols, contesting any claim for their superiority in certain uses. The Board recommends rates of Free, B.P., and 15 p.c., M.F.N.

Iso-propyl alcohol is made in Canada by B.A.-Shawinigan Limited and Shell Canada Limited. Imports supply a small part of the market and there are no known exports. It is entered under tariff item 157c at Free, B.P., and 25 cents per gallon, M.F.N. (an ad valorem equivalent of about 45 p.c.). B.A.-Shawinigan sought rates of 15 p.c. and 20 p.c. "on all this range of saturated monohydric alcohols". The Board recommends rates of 10 p.c. and 15 p.c.

Methyl alcohol (methanol) is made in Canada by two producers: Canadian Chemical in Alberta, said to be about to produce in Central Canada also, and C.I.L. in Ontario. In 1961 Canadian Chemical was said to make "upwards of 90 per cent of Canadian production". In 1963, factory shipments were estimated at 44 million pounds and domestic consumption, at 50.8 million pounds. Of the consumption, 85 or 90 per cent is used in Ontario and Quebec and the production of formaldehyde in that region was said to use 65 per cent of the consumption. In shipping to Central Canada, Canadian Chemical was at a freight disadvantage of 6 or 7 cents per U.S. gallon on the U.S. price of about 23 cents per gallon when shipped by sea, though this price appears to be lower than average. In recent years imports appear to have been between 7.5 - 10 million pounds annually. Exports were said to be insignificant. For general use, methyl alcohol is entered under tariff item 158 at 20 cents per proof gallon under all Tariffs; this rate amounts to about 35 cents per gallon of pure alcohol, an ad valorem equivalent of about 100 per cent; however most imports, over 95 per cent in 1964, are for use in the manufacture of formaldehyde and are entered free of duty under all Tariffs under item 158a. Methyl alcohol may also be imported free of duty under end-use items 851, which would continue unchanged, and 875a. Canadian Chemical Company urged rates of 15 p.c. and 20 p.c. and the elimination of end-use item 158a. Shawinigan Chemicals, a producer of formaldehyde, sought the continuation of item 158a, pointing out that its production of formaldehyde and pentaerythritol had been predicated upon the availability of cheap methanol. There is a close relationship between formaldehyde, for which the Board is recommending 5 p.c. and 10 p.c. in Recommended Item 29.11, and methanol for which the Board recommends rates of 5 p.c. and 10 p.c. also.

Methylamyl alcohol (methyl isobutyl carbinol) is made by Canadian Chemical Company and B.A.-Shawinigan. The market was said to be difficult to determine because of the suitability of alternative alcohols for the same purposes. Imports and exports are negligible. It is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. which both producers sought to have continued. The Board recommends rates of 10 p.c. and 15 p.c.

2-Methyl-2n-propyl-1,3-propanediol is made in Canada by one producer. It is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Octanols are competitive among themselves. One, 2-ethylhexanol, is ruled made and is entered at rates of 15 p.c. and 20 p.c. under tariff item 711; the others are entered at rates of Free and 15 p.c. under tariff item 208t. All are subject to end-use item 865. No representations were made about them. Because of their competitiveness, the Board recommends rates of 10 p.c. and 15 p.c. for all octanols.

Pentaerythritol is made in Canada by Canadian Chemical Company and Shawinigan Chemicals Limited, each of which alone could supply the domestic market. Formaldehyde is one of the raw materials for the production of pentaerythritol and to make its formaldehyde Shawinigan obtains the necessary methanol either by importation or from Canadian Chemicals, the other producer of pentaerythritol. About 95 per cent of the Canadian use of pentaerythritol is in the production of alkyd resins. Imports are negligible but there are substantial exports. Prices in Canada and the U.S. are much the same. The product is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Normal-propyl alcohol is made in Canada by Canadian Chemical Company with a capacity of several times the domestic market. Imports are negligible and exports are a large and growing element of the company's export program. Prices have been constant at $11\frac{1}{2}$ cents per pound in Canada and the U.S.A. The product is now dutiable at 15 p.c. and 20 p.c. under tariff item 711. The Board recommends rates of 10 p.c. and 15 p.c.

Propylene glycol is made in Canada. There are no exports and imports are believed to supply only a small part of the market. It is entered under tariff item 711 at 15 p.c., B.P. and 20 p.c., M.F.N. The Board recommends rates of 10 p.c. and 15 p.c.

Sorbitol has been made in Canada by Atlas Powder Company since 1962. For the three years prior to 1962 imports ranged in value from \$300,000 to \$500,000 per annum; in 1963, they declined to \$100,000. Sorbitol solutions are now ruled to be made in Canada and are entered under tariff item 711 at rates of 15 p.c. and 20 p.c. whereas the crystalline form appears to be dutiable under tariff item 208t at Free and 15 p.c. The latter may also be entered free of duty under end-use item 921. Before it commenced Canadian production, Atlas Powder sought free entry under both Tariffs with provision for rates of 15 p.c. and 20 p.c. upon commencement of Canadian production. Lever Brothers opposed the free entry of sorbitol on the grounds of its competitiveness with refined glycerine which the company produces. Without distinction between the crystalline and solution forms, the Board recommends rates of 10 p.c. and 15 p.c.

Trimethylolethane is not ruled to be made in Canada and is consequently dutiable under tariff item 208t at Free, B.P., and 15 p.c., M.F.N., subject to free entry under the end-use provisions of tariff item 921 when it is used for the manufacture of synthetic resins. The Canadian Paint Varnish and Lacquer Association, three members of which use it to make alkyd resins, sought free entry until it was made in Canada. The Association contended that it conferred certain special characteristics to some finishes; the Association's contention was denied by Canadian Chemical Company and Shawinigan Chemicals both of which urged the substitutability of pentaerythritol. The Board recommends rates of Free, B.P. and 15 p.c., M.F.N.

Recommended ItemB.P. M.F.N. G.T.

29.05 Cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives:

(1) Other than the following	Free	15	25
(2) Cyclohexanol	10	15	25
(3) Essential oils, natural or synthetic, of this item	Free	7½	7½
(4) Menthol	Free	Free	Free
(5) Methylcyclohexanol	10	15	25
(6) Terpeneol	Free	Free	Free

On certain products in this Recommended Item which are not produced in Canada, the Board has either little or no information; these include benzaldehyde sodium bisulphite, benzyl alcohol (921), borneol, iso-borneol, bis(p-chlorophenyl)trichloroethanol (791, see Recommended Item R-35), cholesterol (875a), dihydrotachysterol (875a) dimethyl cyclohexanol, diphenylmethanol (benzhydrol), fenchyl alcohol, inositol, methylandrostenediol, 2-phenylethanol, 3-phenylpropanol (cinnamyl alcohol), 5-beta-pregnane-3-alpha, 17-alpha, 20-alpha-triol terpin hydrate, trimethylcyclohexanol and triphenylmethanol; subject to end-use items indicated in parentheses, they are now dutiable under tariff item 208t at rates of Free and 15 p.c.; the Board recommends continuation of these rates.

Cyclohexanol is made in Canada by one producer; the producer uses some 85 per cent to 90 per cent of its 200 ton production capacity, the balance of some 20 tons representing the remaining requirements of the Canadian market. Both imports and exports are small and sporadic. Cyclohexanol is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Of the essential oils of this item, only santalol came to the Board's attention; they are entered under tariff item *264a - which is not within the Reference - at rates of Free and 7½ p.c. which the Board recommends be continued.

Menthol is not produced in Canada; the market is in the neighbourhood of \$300,000 and, in 1963, was supplied by seven countries of which the two largest suppliers were Brazil and China. At present menthol is entered free of duty under both Tariffs under tariff item 264c. The Board recommends continued free entry.

Methylcyclohexanol is made by one producer, which is also the producer of cyclohexanol; the uses are largely captive but the producer has ample capacity to meet the non-captive uses also. At the time of the hearing, in June 1961, the product was not made in the United States. Methylcyclohexanol is now classified in tariff item 711 at rates of 15 p.c. and 20 p.c. As for cyclohexanol, the Board recommends rates of 10 p.c. and 15 p.c.

Terpineol's principal use is in the perfume and soap industries; it is not produced in Canada; it is now entered under tariff item 261, free of duty under all Tariffs. The Board recommends continued free entry.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.06 Phenols and phenol-alcohols:			
(1) Other than the following	Free	15	25
(2) Bisphenol A	10	15	25
(3) Butylated hydroxytoluene	10	15	25
(4) Cresol, medicinal grade	10	15	25
(5) ortho-Cresol	10	15	25
(6) Didodecyl phenol	10	15	25
(7) Dinonyl phenol	10	15	25
(8) Dodecyl phenol	10	15	25
(9) Essential oils, natural or synthetic, of this item	Free	7½	7½
(10) Nonyl phenol	10	15	25
(11) Phenol	10	15	25
(12) Xylenols	10	15	25

Para-tertiary-amyl phenol, para-tertiary-butyl phenol and paraphenyl phenol are now subject to entry under tariff item 208t at rates of Free and 15 p.c., and under end-use item 921 free of duty; para-phenyl phenol is also subject to the end-use provisions of tariff items 203f, 219a (Recommended Item 38.11) and 791 (Recommended Item R-35). The three products are imported by Union Carbide for the manufacture of certain phenolic resins; the company sought continued free entry for its purposes under tariff item 921 because the products constituted a large part of the cost of production of the resins. No other representations were made and no other data are available to the Board; it recommends rates of Free and 15 p.c.

Barium phenate, calcium phenate and two other products were the subject of representations by Lubrizol of Canada Limited in relation to additives for lubricating and fuel oils. The company sought retention of the rates of 15 p.c. and 20 p.c. now prevailing under tariff item 711 for the prepared additives and of the rates of Free and 5 p.c. under tariff item 220e for the products under consideration, when for use in the manufacture of the additives. Both barium phenate and calcium phenate, subject to the end-use provisions of tariff item 220e, are now entered under tariff item 208t at rates of Free and 15 p.c.; the Board recommends that these rates be continued.

Bisphenol A is made in Canada by Shawinigan Chemicals; all the production is sold for the production of epoxy resins and polycarbonate resins. The price is lower in Canada than in the U.S.A. There are no known imports and some small exports. Shawinigan Chemicals sought continuation of the present entry at rates of 15 p.c. and 20 p.c. under tariff item 711. The Board recommends rates of 10 p.c. and 15 p.c.

Butylated hydroxy toluene is made in Canada by two producers. In 1961 Canadian prices were somewhat higher than those for comparable grades in the U.S.A. The market in Canada is somewhat less than 500,000 pounds annually. Some three-quarters of the domestic consumption was estimated to be supplied from domestic production, the balance being supplied by imports from the U.S.A. Subject to the end-use provisions of tariff items 220c and 851, which would remain unchanged, butylated hydroxytoluene is entered under tariff item 711 at rates of 15 p.c. and 20 p.c., rates which all the proposals sought to have continued. The Board recommends rates of 10 p.c. and 15 p.c.

Several chemicals: catechol, dibutyl phenol, dienoestrol, dihydroxynaphthalenes, 2,5-dimethylquinol, heptylresorcinol, hexoestrol, hexylresorcinol, hydroquinone, orthophenylphenol, phloroglucinol, saligenin, sodium orthophenylphenate, stilboestrol, thymol and 1,2,4-trihydroxybenzene are now entered under tariff item 208t at rates of Free and 15 p.c.; orthophenylphenol is subject to the end-use provisions of tariff items 203f, 219a (Recommended Item 38.11) and 791 (Recommended Item R-35) and phloroglucinol to those of end-use item 921. No extensive data are available to the Board on these products and it recommends rates of Free and 15 p.c.

Cresol is a mixture of the three isomers meta-, ortho- and para-cresol; it is produced in Canada by Dominion Tar and Chemical Company Limited in its cruder tar-acid form; cresol of B.P. and U.S.P. grades is also made in Canada by Dominion Tar. The acid oils which contain cresol are mixtures of chemicals. If heavier than water, they are classified in tariff item *273c, which would remain unchanged, and in tariff item 711 if lighter. In the Brussels Nomenclature most of these oils are not classified as products of the chemical and allied industries. Cresol of medicinal grade are mixtures of the three isomers ruled to be made in Canada and consequently classified in tariff item 711 at rates of 15 p.c. and 20 p.c.; no representations were made to the Board relating to these grades specifically; cresol of other grades appears to be subject to entry under tariff item 208t at rates of Free and 15 p.c. All grades are subject to end-use provisions such as those in tariff items 208e, which would remain unchanged, 219a (Recommended Item 38.11) and 791 (Recommended Item R-35). For cresol, mixed isomers, of B.P. and U.S.P. grades the Board recommends rates of 10 p.c. and 15 p.c. and for the other grades, rates of Free and 15 p.c.

Meta-cresol and para-cresol are now classified in tariff item 208t at rates of Free and 15 p.c. as chemicals of a kind not produced in Canada; several end-use provisions apply to one or both: tariff items 219a (Recommended Item 38.11), 220e, 270 which would remain unchanged, 791 (Recommended Item R-35) and 921. For both these products the Board recommends rates of Free and 15 p.c.

Ortho-cresol, produced in Canada by Dominion Tar & Chemical Company Limited, is classified in tariff item 711 at rates of 15 p.c. and 20 p.c. subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35). The Board recommends rates of 10 p.c. and 15 p.c.

A group of twelve chemicals was the subject of representations by Hart Products Company Limited. Didodecyl phenol, dinonyl phenol and dodecyl phenol were represented as being made in Canada; not being so ruled by the Department of National Revenue, they are entered under tariff item 208t at rates of Free and 15 p.c.; nonyl phenol, ruled to be made in Canada, is entered under tariff item 711 at rates of 15 p.c. and 20 p.c.; didodecyl-o-cresol, dinonyl-o-cresol, dioctyl-o-cresol, dioctyl phenol, dodecyl-o-cresol, nonyl-o-cresol, octyl-o-cresol and octyl phenol are entered under tariff item 208t at rates of Free and 15 p.c. as chemicals of a kind not produced in Canada. End-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35) apply to octyl-o-cresol and octyl phenol and end-use item 203f to octyl phenol. These twelve products are rarely used in the form of separately identified chemicals but are intermediates for further manufacture, usually into surface-active agents of Recommended Item 34.02. For the first four, which are produced in Canada, the Board recommends rates of 10 p.c. and 15 p.c., and for the remaining eight which are not produced in Canada the Board recommends rates of Free and 15 p.c.

The only essential oil of the heading which came to the Board's attention was carvacrol. The essential oils are now entered under tariff item *264a at rates of Free and $7\frac{1}{2}$ p.c.; this tariff item is not within the Reference. The Board recommends continued rates of Free and $7\frac{1}{2}$ p.c.

Naphthols, subject to the end-use provisions of tariff items 203f, 219a (Recommended Item 38.11) 220c and 791 (Recommended Item R-35) are entered under tariff item 208t at rates of Free and 15 p.c. Beta-naphthol was the only naphthol mentioned before the Board; it is not produced in Canada and is imported from Britain and West Germany; the Canadian market is small, probably under \$10,000 annually. The British producer sought rates of Free and 15 p.c. till beta-naphthol was made in Canada; the colour makers sought an end-use item for their purposes - a consideration discussed later in this Report. The textile interests also sought free entry. The Board, for naphthols, recommends rates of Free and 15 p.c.

Phenol is produced by three companies: by Dominion Tar & Chemical from coal tar, by Shawinigan Chemicals from cumene and by Dow Chemical from imported toluene. Productive capacity is close to twice the annual market requirements which were, in 1964, 50 million pounds with a value of over \$6 million as compared with 38 million pounds valued at about \$5 million in 1962. Imports have been declining as a percentage of domestic consumption and accounted for not more than one per cent in 1964. Exports were considered "sizeable" though high tariffs in the U.S.A. were cited as inhibiting Canadian exports to that market. About 75 per cent of the merchant sales is used in the manufacture of phenol formaldehyde compounds; much the larger part of production is for merchant sale; much of the captive use is presumably for the manufacture of agricultural chemicals. Published Canadian prices for phenol recently have been about the same as those in the U.S.A. Subject to the end-use provisions of tariff items 219a (Recommended Item 38.11), 791 (Recommended Item R-35), 851 (which would remain unchanged) and 922, phenol is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The three producers sought

continuation of these rates. Pacific Resins Ltd. and the plywood manufacturers sought free entry. Part of the plea for rates of 15 p.c. and 20 p.c. was based on the need to discourage sales to Canada by corporate affiliates in the United States. The Board recommends rates of 10 p.c. and 15 p.c.

Pyrogallol or pyrogallic acid is used in small quantities and is not produced in Canada; imports are from Britain; it is entered under tariff item 208t at rates of Free and 15 p.c. which the Board recommends be continued.

Resorcinol, not produced in Canada, is imported from Britain, the U.S.A., Germany and Holland in quantities of about 275,000 pounds annually. About 95 per cent of domestic consumption is for the manufacture of resins and adhesives and consequently is imported free of duty under the end-use provisions of tariff item 921; otherwise it is entered under tariff item 208t at rates of Free and 15 p.c. which are the rates the Board recommends.

Xylenol has been ruled to be a chemical of a kind produced in Canada and is therefore entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.07 Halogenated, sulphonated, nitrated or nitrosated derivatives of phenols or phenol-alcohols:			
(1) Other than the following	Free	15	25
(2) 2,4-Dichlorophenol	10	15	25
(3) Pentachlorophenol	10	15	25
(4) Phenolsulphonic acids	10	15	25
(5) Sodium pentachlorophenate	10	15	25

Chlorfenson, 4-chloro-o-cresol, 4-chloro-3-methylphenol (219a, 791), other chlorophenols, chloroquinol (219a, 791), 6-chloro-thymol (219a, 791), 4-chloro-3,5-xylenol (219a, 791), dichlorophene (219a, 791) dichlorophenyl benzene sulphonate (791), dinex (791), dinitrocresol (791), dinitrophenols, dinoseb (791), hexachlorophene (219a, 791), iodophenols, monobutyl phenylphenol sodium monosulphate (Ex. 216), naphtholsulphonic acids (203f), nitrosonaphthols, nitroso-phenols, sodium phenolsulphonate, trinitroxyleneols and zinc phenol-sulphonate are all products now entered under tariff items 208t or 216 at rates of Free and 15 p.c. as chemicals or acids of a kind not produced in Canada. They are subject to the end-use provisions indicated in parentheses: tariff items 203f, Ex. 216, 219a (Recommended Item 38.11) and 791 (Recommended Item R-35). On all these chemicals the Board has little information and it recommends rates of Free and 15 p.c.

2,4-Dichlorophenol was produced in Canada, in 1961, by two companies in three plants for captive use in the production of

2-4-dichloro-phenoxyacetic acid; a third company was planning to begin production also. In 1960 there was a market for close to 5 million pounds; no imports were reported; for its main use in the manufacture of herbicides 2,4-dichlorophenol is subject to free entry under tariff item 791 (Recommended Item R-35) and otherwise to entry under tariff item 711 at rates of 15 p.c. and 25 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

The nitrophenols (ortho-, meta- and para-) are not produced in Canada; they are fungicides used by leather tanners to produce mould-resistant leather. They are entered under tariff item 208t at Free and 15 p.c., rates which the Board recommends.

Pentachlorophenol is produced domestically by two companies. Prices in Canada and the U.S.A. were much the same in 1961; the market estimates ranges from 1.5 million to 3 million pounds annually. In its main uses imports would be free of duty under end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35); for other uses they would be entered under tariff item 711 at rates of 15 p.c. and 25 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Phenolsulphonic acids were not the subject of representations; they are now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. or free of duty under an extract of tariff item 711 when for use in the production of tin plate. The Board recommends rates of 10 p.c. and 15 p.c.

Sodium pentachlorophenate, like the nitrophenols, is used by leather tanners to produce mould-resistant leather and by the pulp and paper producers as a slimicide. As a chemical of a kind produced in Canada and, subject to free entry under end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), the product is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Trinitrophenol, not the subject of representations before the Board, is now entered under tariff item 666 at the specific rates per pound of $1\frac{3}{4}$ cents and $2\frac{1}{4}$ cents. For uniformity the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.08 Ethers, ether-alcohols, ether-phenols, ether-alcohol-phenols, alcohol peroxides and ether peroxides, and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) tert-Butyl hydroperoxide	10	15	25
(3) Cumene hydroperoxide	10	15	25
(4) Di-tertiary-butyl peroxide	10	15	25
(5) Dichloroethyl ether	10	15	25

29.08				
(Cont'd)	(6) Diethylene glycol	10	15	25
	(7) Diethylene glycol monobutyl ether	10	15	25
	(8) Diethylene glycol monoethyl ether	10	15	25
	(9) Diethylene glycol monomethyl ether	10	15	25
	(10) Dipentaerythritol	10	15	25
	(11) Dipropylene glycol	10	15	25
	(12) Essential oils, natural or synthetic, of this item	Free	7½	7½
	(13) Ether (diethyl ether)	10	15	25
	(14) Ethylene glycol monobutyl ether	10	15	25
	(15) Ethylene glycol monoethyl ether	10	15	25
	(16) Ethylene glycol monomethyl ether	10	15	25
	(17) Glycerol guaicolate (guaiacol glyceryl ether)	10	15	25
	(18) Triethylene glycol	10	15	25
	(19) Triethylene glycol monobutyl ether	10	15	25
	(20) Triethylene glycol monoethyl ether	10	15	25
	(21) Triethylene glycol monomethyl ether	10	15	25
	(22) Trinitroanisole	10	15	25
	(23) Tripentaerythritol	10	15	25

A large number of products in this Recommended Item are chemicals on which the Board has but little information; they include amyl ethyl ethers, anisole, benzyl ethyl ether, 1-n-butoxypropan-2-ol, butyl ethyl ethers, tertiary-butyldinitrometacresol methyl ether (musk ambrette), cyclohexanone peroxide, diamyl ether, dibenzyl ether, dibutyl ether, diethylene glycol monophenyl ether, diethyl peroxide, di-isopropylbenzene hydroperoxide, di-isopropyl ether (863), dimethyl hydroquinone, diphenyl ether, ditolyl ether, ethylene glycol diethyl ether, ethylene glycol monophenyl ether, ethyl hydroperoxide, ethyl iso-eugenol ether, ethyl isopropyl ether, ethyl methyl ether, guaethol, guaiacol, lauryl chloroglyceryl ether, mephenisin, methoxychlor (219a: Recommended Item 38.11 and 791: Recommended Item R-35), methyl ethers of butyl-meta-cresol, methyl ethers of meta-cresol, monoguaethyl ether of glycerol, nerolin, nitroanisoles, nitrophenetoles, pentachlorodiphenyl oxide (220f which remain unchanged), phenetole, phenyl tolyl ether, potassium guaiacol sulphonate, 5-propenyl guaethol, p-tolyl methyl ether, tripropylene glycol, tripropylene glycol methyl ether, vanillin sodium bisulphite and yara-yara. None of these is produced in Canada; for some of the chemicals free entry was proposed until Canadian production commenced. The products are now entered, subject to the end-use provisions indicated in parentheses, under tariff item 208t at rates of Free and 15 p.c. The Board recommends that these rates be continued.

tert-Butyl hydroperoxide is ruled made in Canada and consequently dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c. No representations were submitted about this product for which the Board recommends rates of 10 p.c. and 15 p.c.

Cumene hydroperoxide is produced in Canada though almost entirely as a transient intermediate in the production of phenol and acetone. It is dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c. which the producer sought to perpetuate in order to prevent imports for the production of phenol or acetone in competition with the producer. The Board recommends rates of 10 p.c. and 15 p.c.

Di-tertiary-butyl peroxide is now ruled to be made in Canada and consequently subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Dichloroethyl ether, now dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c. is produced in Canada by one company as a by-product in the manufacture of ethylene glycol; it is not separated or purified because no commercial use has been found for it. The Board recommends rates of 10 p.c. and 15 p.c.

Dipentaerythritol and tripentaerythritol were said to be minor by-products and rates of 15 p.c. and 20 p.c., being the same as those urged for pentaerythritol and now prevailing under tariff item 711, were proposed. For pentaerythritol, in Recommended Item 29.04, the Board has recommended rates of 10 p.c. and 15 p.c.; for dipentaerythritol and tripentaerythritol it also recommends rates of 10 p.c. and 15 p.c.

Dipropylene glycol is produced in Canada in modest quantities by one producer as a by-product of monopropylene glycol. No data are available on exports or imports. It is now classified in tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

The essential oils of this item are now entered under tariff item *264a which is not within the terms of the present Reference; although some have also been entered under tariff item 208t; they include anethole, anisyl alcohol, cineol, p-cresyl methyl ether, 1-4-dioxan, ethylene glycol diphenyl ether (1,2-diphenoxyethane), eugenol, iso-eugenol, methyl iso-eugenol and phenoxyethanol; for uniformity of nomenclature the Board recommends mere relocation at the rates now prevailing under tariff item *264a: Free and $7\frac{1}{2}$ p.c.

Ether (ethyl ether, sulphuric ether) is made in Canada by one producer. Subject to the end-use provisions of tariff item 863 and 875a, it is now entered under tariff item 219d(2) at rates of Free and 20 p.c. The producer noted that its costs were higher than those of its competitors in the U.S.A. chiefly because of the higher cost in Canada of ethyl alcohol on which the Board has recommended a substantial reduction in rates for its industrial uses in Recommended Item R-3. The producer estimated that it supplied between 80 and 90 per cent of the domestic market. The Board recommends rates of 10 p.c. and 15 p.c.

Glycerol guaiacolate is now ruled to be made in Canada and is consequently subject to entry at rates of 15 p.c. and 20 p.c. under tariff item 711. The Board recommends rates of 10 p.c. and 15 p.c.

A group of two glycols and nine glycol ethers may conveniently be considered together: diethylene glycol, diethylene glycol monobutyl ether, diethylene glycol monoethyl ether, diethylene glycol monomethyl ether, ethylene glycol monobutyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, triethylene glycol, triethylene glycol monobutyl ether, triethylene glycol monoethyl ether (subject to end-use Item 863) and triethylene glycol monomethyl ether. As chemicals of a kind produced in Canada they are now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The two glycols are made by Union Carbide and Dow Chemicals whereas the nine ethers are made by Union Carbide only. Both imports and exports represent about 10 per cent of Canadian consumption. Prices in Canada appeared in 1961 to be generally about 10 per cent higher than in the U.S.A. The producers sought to have the rates of 15 p.c. and 20 p.c. continued to ensure to themselves the totality of the Canadian market. The Board recommends rates of 10 p.c. and 15 p.c.

Trinitroanisole is entered under tariff item 666 as an explosive at rates of $1\frac{3}{4}$ cents and $2\frac{1}{4}$ cents per pound. In line with its recommendations for explosives in Recommended Item 36.01, the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.09 Epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with a three or four member ring, and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Epichlorohydrin	Free	Free	10
(3) Ethylene oxide (epoxyethane)	10	15	25
(4) Propylene oxide (1,2-epoxypropane)	10	15	25

Butyl glycidyl ether (921), dieldrin (791) and endrin (791) are not produced in Canada; they are imported, free of duty to make epoxy resins or pesticides under the end-use provisions noted in parentheses (Note - 791: Recommended Item R-35); otherwise they would be subject to rates of Free and 15 p.c. under tariff item 208t. The Canadian users, purchasing from corporate affiliates in the U.S.A. sought continued free entry. The Board recommends rates of Free and 15 p.c.

Epichlorohydrin, not produced in Canada, is generally subject to rates of Free and 15 p.c. under tariff item 208t and to free entry, under end-use tariff item 921, when for use in the manufacture

of synthetic resins; imports are now largely for use in the manufacture of epoxy resins. The Board recommends free entry under both Tariffs.

Epoxy alcohols, epoxyethers and epoxyphenols, subject to end-use item 921, are entered under tariff item 208t at rates of Free and 15 p.c.; bis (2,3-epoxycyclopentyl)ether, dicyclopentadiene dioxide, dipentene dioxide, ethylene glycol bis-epoxydicyclopentyl ether and vinyl cyclohexene dioxide are entered free of duty under both tariffs under tariff items 901(a)9 or 901(b)8. For all these products the Board recommends rates of Free and 15 p.c.

Ethylene oxide is produced in Canada by Dow Chemical and Union Carbide. Factory shipments were reported to be 115 million pounds valued at \$17 million in 1964. The major use is captive to the producers for use in the production of ethylene glycol, other glycols and ethanalamines. Imports have diminished considerably in recent years: between 1956 and 1959, except in 1958, they ranged from \$3 million to \$6 million dropping to less than \$200,000 in 1963. Subject to free entry for pesticide use under tariff item 219e (Recommended Item 38.11), ethylene oxide is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The producers sought continuation of these rates. The Board recommends rates of 10 p.c. and 15 p.c.

Lauryl glycidyl ether is not produced in Canada; Procter & Gamble imports lauryl glycidyl ether sulphonate, a coconut oil surfactant; the company pointed out that manufacture of the product would be likely in several years if the ether could be imported free of duty. The company sought free entry pending Canadian production and rates of 15 p.c. and 20 p.c. thereafter. The Board recommends rates of Free and 15 p.c.

Polyethylene oxide, as a chemical of a kind not produced in Canada, is entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends that these rates be continued.

Propylene oxide, in 1961, was made by Canadian Chemical Company for captive use; Dow Chemical was then building facilities for its production. Imports have been increasing reaching a value of \$280,000 in 1963. In May, 1964, the product was ruled to be made in Canada and then became subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Styrene oxide is now entered under tariff item 208t at rates of Free and 15 p.c. and the Board recommends that these rates be continued.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.10 Acetals and hemiacetals and single or complex oxygen-function acetals and hemiacetals, and their halo- genated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Essential oils, natural and synthetic, of this item	Free	7½	7½

Dimethylacetal, 1,3-dioxan, 1,3-dioxolan, heliotropine sodium bisulphite and methylal are entered under tariff item 208t at rates of Free and 15 p.c. and 2-(3,4-epoxycyclohexyl)-3',4'-epoxy-1,3-dioxane-5-spirocyclohexane, free of duty under tariff items 901(a)9 and 901(b)8.

Methylal chloride, subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35) and piperonyl butoxide, subject to the end-use provisions of tariff item 791 (Recommended Item R-35), are also entered under tariff item 208t at rates of Free and 15 p.c.

None of the foregoing chemicals appears to be made in Canada; for all of them the Board recommends rates of Free and 15 p.c.

The essential oils of this item include diethylacetal, isosafrole and safrole and are subject to entry at rates of Free and 7½ p.c. under tariff item *264a, which is not within the scope of this Reference. For mere relocation without change in rates the Board recommends rates of Free and 7½ p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.11 Aldehydes, aldehyde-alcohols, aldehyde-ethers, aldehyde-phenols and other single or complex oxygen-function aldehydes:			
(1) Other than the following	Free	15	25
(2) Acetaldehyde	10	15	25
(3) Aldol (acetaldol)	10	15	25
(4) n-Butyraldehyde	10	15	25
(5) Crotonaldehyde	10	15	25
(6) Essential oils, natural and synthetic, of this item	Free	7½	7½
(7) 2-Ethyl-3-propylacrolein (2-ethylhex-2-enaldehyde)	10	15	25
(8) Formaldehyde	5	10	20
(9) Paraldehyde	10	15	25
(10) Vanillin	10	15	25

A number of the chemicals of this Recommended Item are classified in tariff item 208t at rates of Free and 15 p.c. as chemicals of a kind not produced in Canada; they include acraldehyde, ethyl-protocatechualdehyde, glycollaldehyde, heliotropine, p-hydroxybenzaldehyde, metaldehyde (subject to end-use item 79l: Recommended Item R-35), methyl pentanal (subject to end-use item 208y), protocatechualdehyde, trioxan (metaformaldehyde) (subject to end-use items 219a: Recommended Item 38.11 and 79l: Recommended Item R-35), and veratraldehyde. The Board recommends continued rates of Free and 15 p.c.

Acetaldehyde is produced domestically by two companies which consume all they produce - a situation generally prevalent elsewhere. There have been no imports. Subject to the end-use provisions of tariff items 79l (Recommended Item R-35) and 85l which would remain unchanged, it is subject to entry under tariff item 71l at rates of 15 p.c. and 20 p.c. Both producers sought to have these rates continued. The Board recommends rates of 10 p.c. and 15 p.c.

Aldol (acetaldol), n-butyraldehyde, crotonaldehyde and 2-ethyl-3-propylacrolein are produced in Canada by Shawinigan Chemicals; subject to the end-use provisions of tariff item 79l (Recommended Item R-35) for aldol, crotonaldehyde and 2-ethyl-3-propylacrolein, these four chemicals are classified in tariff item 71l at rates of 15 p.c. and 20 p.c. Essentially the whole production is used captively; imports appear to be of minor significance. The Board recommends rates of 10 p.c. and 15 p.c.

The essential oils in this item are now classified in tariff item *264a which is not part of this Reference; although some have also been entered under tariff item 208t; they include alpha-amyl cinnamic aldehyde, anisaldehyde, benzaldehyde (subject to end-use items 203f and 92l), capraldehyde, caprylic aldehyde, cinnamaldehyde, citral, citronellaldehyde, cyclamen aldehyde, cyclocitrals, dodecanal, 2-ethylhexaldehyde, heptanal, hydroxycitronellal, para-isopropyl-alpha-methylhydrocinnamaldehyde, methylnonylacetaldehyde, pelargonaldehyde, alpha-pentylcinnamaldehyde, perillaldehyde, phellandral, phenylacetaldehyde, safranal, salicylaldehyde, trimethyl undecylic aldehyde, undecanal, undecylenaldehyde and undecylic aldehyde. For uniformity of nomenclature the Board recommends mere relocation in this Recommended Item at the existing rates of Free and $7\frac{1}{2}$ p.c.

Formaldehyde is produced in Canada by five companies; its main uses are in the production of pentaerythritol, phenolic resins and urea resins. In 1964, on a 100 per cent solids basis, a little over 100 million pounds were produced in Canada; imports, not converted to a 100 per cent solids basis and therefore probably of 37 per cent formaldehyde by weight varied between a low of 2.6 million pounds in 1962 and a high of 10.7 million pounds annually in the seven years 1958-64 and appear to have been almost entirely from the U.S.A. One producer pointed out that prices in Canada fluctuated immediately in line with those of the U.S.A. though in 1963, 1964 and 1965, the Canadian price advanced while the price in the U.S.A. remained fixed. Though formaldehyde containing more than 15 per cent of alcohol appears to be considered subject to entry under tariff item 220a(ii) this practice seems to have no commercial importance and imports appear to be entered free of duty under all Tariffs under tariff item 219b. Four

of the producers made representations: one sought protection to prevent purchase from affiliates in the U.S.A., another sought rates of 15 p.c. and 20 p.c., another agreed to such rates "hoping and wishing" for similar treatment on its products and still another, refraining from asking for these rates because it urged free entry for methyl alcohol as a raw material, indicated that it would be quite content with them. There is a close relationship between methyl alcohol for which the Board is recommending rates of 5 p.c. and 10 p.c. in Recommended Item 29.04 and formaldehyde for which it also recommends rates of 5 p.c. and 10 p.c.

Paraformaldehyde, a polymer of formaldehyde, is not made in Canada but is imported for resale by at least one company; it is largely formaldehyde from which water has been removed; imports are believed to be well under one million pounds per year. Subject to the end-use provisions of tariff items 219a (Recommended Item 38.11), 791 (Recommended Item R-35) and 921, the product is now entered under tariff item 208t at rates of Free and 15 p.c. and the Board recommends these rates.

Paraldehyde is a less flammable polymer of acetaldehyde and a more convenient form in which to ship acetaldehyde. It is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. as a chemical of a kind produced in Canada by McArthur Chemical Co. Ltd., a subsidiary of Shawinigan Chemicals. As for acetaldehyde, the Board recommends rates of 10 p.c. and 15 p.c.

Vanillin is produced in Canada from the waste sulphite liquor from pulp mills. Public statistical data are not available but exports represent a large part of shipments while imports, chiefly from the U.S.A., are of smaller consequence; the producers made no representations; vanillin is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. and the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.12 Halogenated, sulphonated, nitrated or nitrosated derivatives of products falling within Recommended Item No. 29.11	Free	15	25

Chloral and m-nitrobenzaldehyde, both subject to the end-use provisions of Tariff item 791 (Recommended Item R-35) and m-nitrobenzaldehyde also subject to end-use item 219a (Recommended Item 38.11), are now entered under tariff item 208t, at rates of Free and 15 p.c. Of the products in this Recommended Item only m-nitrobenzaldehyde was mentioned to the Board with a request for continued rates of Free and 15 p.c. No products in this group appear to be ruled to be produced in Canada. For the products in this Recommended Item the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.13 Ketones, ketone-alcohols, ketone-phenols, ketone-aldehydes, quinones, quinone-alcohols, quinone-phenols, quinone-aldehydes and other single or complex oxygen-function ketones and quinones, and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Acetone	10	15	25
(3) Camphor, natural or synthetic	Free	5	25
(4) Diacetone alcohol	10	15	25
(5) 3,6a-Dihydroxypregnan-20-one	10	15	25
(6) Essential oils, natural or synthetic, of this item	Free	7½	7½
(7) Ethylmethyl ketone	10	15	25
(8) 12a-Hydroxypregnan-3, 20-dione	10	15	25
(9) Isophorone	10	15	25
(10) Menadione sodium bisulphite	10	15	25
(11) Mesityl oxide	10	15	25
(12) Methylisobutyl ketone	10	15	25
(13) 5B-Pregnan-3a-ol-20-one	10	15	25
(14) 11-Pregnen-3, 20-dione	10	15	25

Acenaphthenequinone, acetanisole, acetol (921), acetonyl acetone (921), acetylacetone (921), 5-alpha-androstan-3-one, anthraquinone (203f), benzanthrone (203f), benzophenone, para-benzoquinone (203f), benzylideneacetone, bromocamphor, butyldimethylacetophenone, tert-butyldimethyldinitroacetophenone, camphorsulphonic acid, chloranil (219a: Recommended Item 38.11 and 791: Recommended Item R-35), chrysazin, cyclohexanone (921), cyclopentanone, 2,3-dichloro-1,4-naphthoquinone (219a: Recommended Item 38.11 and 791: Recommended Item R-35), diethylketone (263b: Recommended Item R-18), alpha-hydroxyanthraquinone (203f), 17-beta-hydroxy-2-hydroxymethylene-17-alpha-methyl-5-alpha-androstan-3-one (863), 17-beta-hydroxy-17-alpha-methyl-androsta-1,4-diene-3-one (863), 11a-hydroxypregn-4-ene-3,20-dione (863), hydroxyprogesterone (863), 17-beta-hydroxy-17-alpha-1-ynyloestr-4-en-3-one (863), menadione (*219h which remain unchanged and 791: Recommended Item R-35), p-methoxybenzylacetone, methylacetophenone, methylanthraquinone, p-methylbenzylacetone, methylcyclohexanone, methylnaphthyl ketone, methylpropyl ketone (263b: Recommended Item R-18), 1,4-naphthaquinone (203f, 219a: Recommended Item 38.11, 791: Recommended Item R-35 and 921), p-nitroacetophenone, pentachlorodiphenyl ketone (220f which would remain unchanged and 791: Recommended Item R-35), phenanthrenequinone (203f), phorones other than isophorone, propiophenone (921) and quinizarin are now subject to the provisions of the end-use items, noted in parentheses, entered under tariff items 208t or 216 at rates of Free, B.P., and 15 p.c., M.F.N. No data of importance are available concerning these products and the Board recommends continued rates of Free and 15 p.c.

Acetone is made in Canada by three producers. Imports, almost entirely from the United States, have been less than one per cent of the domestic market of some 25 or 30 million pounds with a value of some \$2 million; of these imports about one-quarter was entered free of duty under the end-use provisions of tariff items 851 and 863 which would remain unchanged and the remaining three-quarters were dutiable under an extract of tariff item 166, which provides rates of 5 p.c., B.P. and 25 p.c., M.F.N. There are exports to the United States, Europe, the Carribean and Latin America. Two of the producers, Shawinigan Chemicals and Canadian Chemicals, proposed rates of 15 p.c. and 20 p.c., whereas the third, Shell Oil, made no proposal. The Board recommends rates of 10 p.c. and 15 p.c.

12a-Acetoxypregnan-3,20-dione and 3a,12a-diacetoxypregnan-20-one, mentioned at the hearing on heading 29.13, are properly classified in Recommended Item 29.14.

Camphor is now entered under tariff item 264b at rates of Free, B.P., and 5 p.c., M.F.N. and free of duty under end-use items 791 and 921 (Recommended Item R-35); no data of any importance are available to the Board. The pharmaceutical manufacturers proposed rates of Free and 15 p.c. The Board recommends continuation of the existing rates of Free and 5 p.c.

Diacetone alcohol is made in Canada by Shawinigan Chemicals; there appears to be a market for some 200,000 pounds annually; subject to the end-use provisions of tariff item 921, the product is now entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

3,6a-Dihydroxypregnane-20-one; 12a-hydroxypregnan-3,20-dione; 5B-pregnan-3a-ol-20-one and 11-pregnene-3,20-dione are derivatives of the bile acids obtained in meat packing establishments; Canada Packers Limited proposed rates of 15 p.c. and 20 p.c. because of Canadian production; as these chemicals are not ruled to be made in Canada they are, subject to free entry under end-use item 863, entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Under the caption "Essential oils of this item" are included acetophenone, allyl-a-ionone, carvone, diacetyl, fenchone, ionones, pseudo-ionones, ionone terpenes, irone, jasmone, menthone, methylhexyl ketone (also subject to end-use item 921), pseudo-methyl ionones, methylnonyl ketone; under tariff item *264a, which is not within the scope of this Reference, essential oils are entered at rates of Free, B.P., and $7\frac{1}{2}$ p.c., M.F.N. which the Board recommends be continued.

Ethylmethyl ketone, or methylethyl ketone, is made in Canada by Shell Oil Company of Canada Limited; a consumer, Imperial Oil Ltd., estimated the petroleum industry's consumption of the product for the removal of wax from lubricating oil to be roughly one-third of the Canadian market; Imperial Oil also stated that its entire supply was bought in Canada at prices competitive with duty-free imports. Ethylmethylketone, subject to the end-use provisions of tariff items 263b and 833, is entered under tariff item 208v at Free, B.P., and 25 p.c., M.F.N. In line with its recommendations for similar products made in Canada, the Board recommends rates of 10 p.c. and 15 p.c.

Isophorone, made in Canada by Shawinigan Chemicals, was ruled, in 1965, to be a chemical of a kind produced in Canada and is consequently now subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c., the rates proposed by the producer. The Board recommends rates of 10 p.c. and 15 p.c.

Menadione sodium bisulphite is a chemical entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical of a kind ruled to be produced in Canada. The Board recommends rates of 10 p.c. and 15 p.c.

Mesityl oxide is produced in Canada by Shawinigan Chemicals; subject to the end-use provisions of tariff items 219a: Recommended Item 38.11, 791: Recommended Item R-35 and 921, it is entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Methylisobutyl ketone is made in Canada by Shawinigan Chemicals and Canadian Chemicals; the market was estimated to be in the order of 4 or 5 million pounds annually for its main uses which were said to be as a solvent in the extraction of wax from lubricating oils - a use which benefits by the end-use provisions of tariff item 263b - and the production of methyl isobutylcarbinol. Imports, other than those under tariff item 263b, are subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. The meagre data on imports and the assessment by one producer point to their being negligible. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.14 Monoacids and their anhydrides, acid halides, acid peroxides and peracids, and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Acetic acid including aqueous solutions of any strength but not including vinegar	10	15	25
(3) Acetic anhydride	10	15	25
(4) 12a-Acetoxypregnan-3, 20-dione	10	15	25
(5) Acrylic acid	Free	Free	10
(6) Aluminum distearate	10	15	25
(7) Aluminum monostearate	10	15	25
(8) Aluminum octoate (aluminum-2-ethylhexanoate)	10	15	25
(9) Aluminum tristearate	10	15	25
(10) Ammonium acetate	10	15	25
(11) Ammonium palmitate	15	20	32½
(12) Barium stearate	10	15	25
(13) Benzoic acid	10	15	25
(14) Benzoyl peroxide	10	15	25
(15) n-Butyl acetate	10	15	25

29.14

(Cont'd)	(16)	Butyl oleates	10	15	25
	(17)	tert-Butyl perbenzoate	10	15	25
	(18)	Butyl stearates	10	15	25
	(19)	Calcium linoleate	10	15	25
	(20)	Calcium propionate	10	15	25
	(21)	Calcium stearate	10	15	25
	(22)	"Deleted"			
	(23)	Cobalt linoleate	10	15	25
	(24)	Copper acetate, basic (verdigris)	Free	Free	Free
	(25)	3a, 12a-Diacetoxypregnan-20-one	10	15	25
	(26)	Diglycol laurate (diethylene glycol monolaurate)	10	15	25
	(27)	Diglycol oleate (diethylene glycol mono-oleate)	10	15	25
	(28)	Diglycol stearate (diethylene glycol monostearate)	10	15	25
	(29)	Di-iodo stearic acid	10	15	25
	(30)	Essential oils, natural and synthetic, of this item	Free	7½	7½
	(31)	Ethyl acetate	10	15	25
	(32)	Ethyl acrylate	Free	Free	10
	(33)	Formic acid	Free	12½	25
	(34)	Glycerol mono-oleate	10	15	25
	(35)	Glycerol monostearate	10	15	25
	(36)	Glycerol triacetate	10	15	25
	(37)	Isopropyl acetate	10	15	25
	(38)	Isopropyl oleate	10	15	25
	(39)	Lauroyl peroxide	10	15	25
	(40)	Lead acetate, neutral	Free	10	25
	(41)	Lead formate	10	15	25
	(42)	Lead linoleate	10	15	25
	(43)	Lead stearate	10	15	25
	(44)	Lead stearate, dibasic	10	15	25
	(45)	Lithium stearate	10	15	25
	(46)	Magnesium stearate	10	15	25
	(47)	Manganese linoleate	10	15	25
	(48)	Methacrylic acid	Free	Free	10
	(49)	Methyl acrylate	Free	Free	10
	(50)	Methylamyl acetate	10	15	25
	(51)	Oleic acid	10	15	25
	(52)	Potassium acetate	10	15	25
	(53)	Potassium palmitate	15	20	32½
	(54)	n-Propylacetate	10	15	25
	(55)	n-Propyloleate	10	15	25
	(56)	Pyroligneous acid, crude	10	15	25
	(57)	Sodium acetate	10	15	25
	(58)	Sodium benzoate	10	15	25
	(59)	Sodium palmitate	15	20	32½
	(60)	Sodium propionate	10	15	25
	(61)	Sodium stearate	15	20	32½
	(62)	Stannous octoate (stannous-2-ethylhexanoate)	10	15	25
	(63)	Vinyl acetate	10	15	25
	(64)	Zinc laurate	10	15	25
	(65)	Zinc stearate	10	15	25

Acetomenaphthone, acetyl bromide, acetyl chloride, allethrin (791), allyl benzoate, aluminum acetate, aluminum diformate, aluminum palmitate, aluminum triformate, ammonium benzoate, ammonium oleate, ammonium perfluorocaprylate, ammonium stearate (851), benzoyl chloride, benzyl benzoate, benzyl butyrate, benzyl cinnamate, sec-butyl acetate (921), tert-butyl acetate (921), butyl acrylate (921), p-tert butyl benzoic acid (921), butyl methacrylate (921), butyric acid, butyric anhydride, calcium acetate, calcium benzoate, calcium formate, calcium palmitate, capric acid (921), cetyl palmitate, chloroacetic acid, chlorobenzoic acids (791), chromium acetate, cinnamic acid, cobalt acetate (also subject to entry under tariff item 246 and end-use item *219h which would remain unchanged), copper acetate neutral (851), copper oleate (219a, 791), copper stearate, p-cresyl phenylacetate, cyclohexanecarboxylic acid, cyclopentylacetic acid, dibromoacetic acid, dichloroacetic acid, dichloroacetyl chloride, dichlorobenzoic acids (791), dihydrocarveyl acetate, dinitrocapryl phenyl crotonate (791), dipropylene glycol dibenzoate (921), erbon (791), 2-ethylbutyric acid, ethyl chloroformate, ethyl formate (219a, 791, 921), 2-ethylhexoic acid, 2-ethylhexyl acrylate (791), ethyl laurate, ethyl methacrylate (921), ethyl propionate, ethyl stearate (921), eugenyl benzoate, glycerol diacetate, glycerol monoacetate, glycol stearate, n-heptoyl chloride, heptyne carboxylic acid, n-hexoic acid (921), hexyl methacrylate (921), iron acetate (219a, 791), isoamyl acetate (subject to entry under an extract from tariff item 166 at rates of 10 p.c. and 25 p.c.), isobutyl acetate (now subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c., but the domestic production of which is being discontinued), isobutyric acid, isobutyric anhydride, isopropyl myristate, isopropyl palmitate, isovaleric acid, lauryl methacrylate (921), lithium acetate, methyl dichloroacetate, methyl formate (219e: Recommended Item 38.11), methyl laurate, methyl methacrylate (921), monobromoacetic acid, naphthoic acids, naphthyl benzoate, nickel formate, nitrobenzoic acids, nitrobenzoyl chlorides, n-octoic acid (*216e, 791), n-octyl acetate, octyne carboxylic acid, pelargonic acid (*216e) peracetic acid (219a, 791), perfluorobutyric acid, perfluoro-octanoic acid, perfluoropropionic acid, phenylacetic acid (875a), phenylpropionic acid, potassium benzoate, potassium cinnamate, potassium oleate, potassium phenylacetate (875a), potassium sorbate (219a), potassium stearate, propionic acid (791, 921), sodium n-butyrate, sodium cinnamate; sodium-2,2-dichloropropionate (dalapon) (791); sodium formate, sodium oleate, sorbic acid (219a, 791, 921), stearyl methacrylate (921), stilboestrol dipropionate, tetrastearyl titanate, n-toluic acid, paratolyl acetate, tribromoacetic acid, trichloromethylphenyl carbonyl acetate (rosacetol), trifluoroacetic acid, valeric acid (921) and zinc propionate, subject to the parenthetic observations in this paragraph and to the end-use items indicated in parentheses, are now entered at rates of Free and 15 p.c. as chemicals or acids of a kind not produced in Canada under tariff item 208t or tariff item 216. Note on end-use items - 219a see Recommended Item 38.11, 791 see Recommended Item R-35, 851 would remain unchanged. The Board, for all these products, recommends rates of Free and 15 p.c.

A number of products in this Recommended Item are now ruled to be made in Canada and consequently, subject to the end-use items indicated in parentheses, are entered under tariff item 711; these products include aluminum octoate, aluminum tristearate (aluminum stearate) (851), ammonium acetate, barium stearate, benzoyl peroxide (851),

tertbutyl perbenzoate, butyl stearates, calcium linoleate, calcium propionate (219a and 791), calcium stearate, cobalt linoleate, di-iodo stearic acid, glycerol triacetate (triacetin), layroyl peroxide, lead linoleate, lead stearate, magnesium stearate, manganese linoleate, potassium acetate, sodium acetate, sodium benzoate (219a), sodium propionate (219a, 791), stannous octoate, zinc laurate and zinc stearate (851). Note on end-use items - 219a see Recommended Item 38.11, 791 see Recommended Item 38.11, 851 would remain unchanged. For all of these products which are produced in Canada the Board recommends rates of 10 p.c. and 15 p.c.

A further group of products, produced in Canada but not so ruled and consequently, are subject to entry under tariff item 208t at rates of Free and 15 p.c.; these products include aluminum distearate, aluminum monostearate, butyl oleates, diglycol laurate, diglycol oleate, diglycol stearate, glycerol monooleate and glycerol monostearate (both subject to entry at Free and 5 p.c. under extracts from tariff items 208t and 711), isopropyl oleate, lithium stearate and n-propyl oleate; for all of these products the Board recommends rates of 10 p.c. and 15 p.c.

Four products: ammonium palmitate, potassium palmitate, sodium palmitate and sodium stearate are now entered at rates of 15 p.c., 20 p.c. and $32\frac{1}{2}$ p.c. under tariff item *228(ii); this tariff item is not within the present Reference. By a mere process of re-location for uniformity of nomenclature the Board recommends continuation of these rates.

Acetic acid is produced in large quantities by two Canadian companies; imports, nearly all from the United States, form a very small part of the domestic supply; most of the domestic production is used captively. Acetic acid is now entered under tariff items 213 and 214 under a complicated system of specific rates; the crude at rates of 15 p.c. and $22\frac{1}{2}$ p.c., and the other at specific rates with an ad valorem equivalent exceeding 150 p.c.; it is also subject to free entry under the provisions of end-use items 791 (Recommended Item R-35) and 851 which would remain unchanged. Vinegar, an aqueous solution of acetic acid, is also subject to entry under an extract from tariff item 213; because of its nature vinegar must stand very close to acetic acid in rates: strong acid can readily be diluted and diluted acid can readily be strengthened. No representations were made to the Board concerning vinegar. The two producers of acetic acid proposed rates of 15 p.c. and 20 p.c. For acetic acid, in this Recommended Item, and for its aqueous solutions commonly known as vinegar in Recommended Item R-15 the Board is recommending rates of 10 p.c. and 15 p.c.

Acetic anhydride is made in Canada by the two producers of acetic acid; imports are small; the product is entered under the complicated provisions of tariff item 213 at specific rates, the ad valorem equivalent of which exceeds 125 per cent. For acetic anhydride, as for acetic acid, the Board recommends rates of 10 p.c. and 15 p.c.

12a-Acetoxypregnan-3,20-dione and 3a,12a-diacetoxypregnan-20-one were mentioned at the hearing on heading 29.13. They are

derivatives of the bile acids obtained in meat packing establishments; because of Canadian production, Canada Packers Ltd. proposed rates of 15 p.c. and 20 p.c.; because these chemicals are not ruled to be made in Canada they are, subject to free entry under end-use item 863 which would remain unchanged, entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Four products: acrylic acid (also subject to free entry under tariff item 851 which would remain unchanged), ethyl acrylate, methacrylic acid and methyl acrylate are generally subject to rates of Free and 15 p.c. under tariff item 208t or 216 and to free entry under tariff item 921 when for use in the manufacture of synthetic resins; imports are largely now for the latter purpose. For the four products the Board recommends free entry under both tariffs.

Benzoic acid, not made in Canada at the time of the hearing in 1961, is now ruled to be so made; consequently it is subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. All imports appear to be of the technical grade. The Board recommends rates of 10 p.c. and 15 p.c. for all grades.

n-Butyl acetate is produced in Canada by two producers; it is subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. The productive capacity was represented to be ample for the domestic market. Exports and imports were said to be negligible. The Board recommends rates of 10 p.c. and 15 p.c.

Cetyl oleate sulphonate, named in paragraph (22) in the Schedule of Recommended Items published in Volume 1 of this Report was deleted by the Corrigenda published in Volume 3. No such product is properly classified in Recommended Item 29.14.

Copper acetate basic (subacetate of copper or verdigris) is now entered free of duty under all Tariffs under tariff item 208; it was not the subject of representations before the Board which recommends continued free entry.

The essential oils of this item include amyl acetate (now entered under an extract from tariff item 166 at rates of 10 p.c. and 25 p.c. and under end-use item 875a free of duty), amyl benzoate, amyl butyrate, amyl cinnamate, amyl phenyl acetate, amyl propionate, amyl valerate, anisyl acetate, benzyl acetate, benzyl formate, benzylphenyl acetate, benzyl propionate, bornyl acetate, bornyl formate, butyl benzoate, cedryl acetate, cinnamyl acetate, cinnamyl butyrate, citronellyl acetate, citronellyl butyrate, citronellyl formate, p-cresyl acetate, dimethylbenzylcarbinyl acetate, ethyl benzoate, ethyl butyrate, ethyl capronate, ethyl cinnamate, ethyl oenanthate, ethylphenyl acetate, ethyl valerate, geranyl acetate, geranyl benzoate, geranyl butyrate, geranyl formate, geranyl propionate, isobornyl acetate, isobornyl formate, isobutylphenyl acetate, linalyl acetate, linalyl benzoate, linalyl butyrate, linalyl formate, linalyl propionate, methyl formate, methyl acetate, methyl benzoate, methyl cinnamate, methylphenyl acetate, octyl acetate, phenoxyethyl isobutyrate, phenylethyl acetate, phenylethyl butyrate, phenylethyl formate, phenylethyl isobutyrate, phenylmethylcarbinyl acetate, phenylpropyl acetate, propyl benzoate, pyrethrin I, rhodinyl acetate, rhodinyl formate, terpinyl acetate, terpinyl formate, terpinyl propionate, and vertivert acetate. With the exception of amyl acetate, they are subject to entry at rates of Free and $7\frac{1}{2}$ p.c. under tariff item *264a which is not within the scope of the Reference. The Board is recommending continuation of these rates.

Ethyl acetate; methylamyl acetate and n-propyl acetate are each produced in Canada by one company; they are subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c., and methylamyl acetate may also be entered free of duty under end-use item 875a. Productive capacity was represented to be ample for the domestic market. Exports and imports were said to be negligible. The Board recommends rates of 10 p.c. and 15 p.c.

The fatty acids of this Recommended Item are those which contain as much as 90 per cent by weight of the fatty acid involved; the cruder forms and the mixtures of the same fatty acids, not containing as much as 90 per cent by weight of any one acid are classified in Recommended Item 15.10 where the Board has recommended rates of 10 p.c. and 15 p.c. for them.

- (a) Lauric acid, in its cruder form, is subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. and for it the Board recommends rates of 10 p.c. and 15 p.c. in Recommended Item 15.10; in its purer form it is subject to entry under tariff item 216 at rates of Free and 15 p.c. which the Board recommends be continued.
- (b) Both linoleic acid and palmitic acid are now entered under item 216 at rates of Free and 15 p.c.; for the forms of these acids classified in this Recommended Item the Board recommends continuation of the rates of Free and 15 p.c.
- (c) Oleic acid is now ruled to be made in Canada and, subject to the free entry provisions of end-use item 851 which would remain unchanged, it is consequently subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. For it the Board recommends rates of 10 p.c. and 15 p.c.
- (d) Stearic acid, subject to the end-use provisions of tariff item 215a and of end-use item 851 which would remain unchanged, is entered under tariff item 215 at rates of Free and $12\frac{1}{2}$ p.c. For its mixtures and cruder forms classified in Recommended Item 15.10, the Board recommends rates of 10 p.c. and 15 p.c. For the stearic acid classified in the present Recommended Item the Board, for uniformity of rates, recommends rates of Free and 15 p.c.

Formic acid, apparently not produced domestically, was imported in 1964 to the extent of nearly 1.8 million pounds valued at \$176,000. The tanners sought free entry. The product is now entered under an extract from tariff item 216 at rates of Free and $12\frac{1}{2}$ p.c. and free of duty under end-use items 791 (Recommended Item R-35) and 921. The Board recommends continued rates of Free and $12\frac{1}{2}$ p.c.

Isopropyl acetate is made in Canada by one producer. Productive capacity was said to be ample for the domestic market and both exports and imports were represented to be negligible. The product is subject to entry under tariff item 208v at rates of Free and 25 p.c. In line with its other recommendations, the Board recommends rates of 10 p.c. and 15 p.c.

Lead acetate neutral, is now subject to entry under tariff item 488 at rates of Free and 10 p.c. if not ground and under tariff item 208t at rates of Free and 15 p.c. if ground. It was not the subject of any detailed representations. The Board sees no reason to continue the distinction and recommends rates of Free and 10 p.c.

Lead formate is made in Canada by one producer for one consumer. There are no known imports. The product is subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c., the rates proposed by the producer. The Board recommends rates of 10 p.c. and 15 p.c.

Lead stearate dibasic, a stabilizer for polyvinylchloride resins, is produced in Canada; however not being so ruled it is, subject to end-use item 921, entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Pyroligneous acid, crude, appears to be a liquor resulting from wood distillation; the Explanatory Notes to the Brussels Nomenclature describe it as a crude acetic acid obtained from dry distillation of wood and containing about 50% acetic acid. Provision is made in tariff item 214 for its entry at rates of 15 p.c. and 22½ p.c. when of any strength not exceeding thirty per cent and otherwise in tariff item 213 with its pattern of specific rates. The Board recommends rates of 10 p.c. and 15 p.c.

A number of sorbitol esters come within this Recommended Item if derived from the pure acids of the item instead of the mixed fatty acids of Recommended Item 15.10; the sorbitol esters derived from the mixed fatty acids are classified in Recommended Item 38.19. Seven of the sorbitol esters were brought to the attention of the Board by the Canadian producer which derived them from mixed fatty acids; as products of the mixed fatty acids these sorbitol esters are classified in Recommended Item 38.19. The sorbitol esters of Recommended Item 29.14 do not appear to be produced in Canada and were not the subject of representation. They are now entered, under item 208t, at rates of Free and 15 p.c. which the Board recommends be continued.

Vinyl acetate is produced in Canada by Shawinigan Chemicals; the plant's capacity is said to be 60 million pounds annually; exports take a large part of production. There appear to be no imports of the monomer though there are imports of polyvinyl acetate and products made from it. The sole commercial use of vinyl acetate is in the production of synthetic resins. The product is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Recommended Item

B.P. M.F.N. G.T.

- 29.15 Polyacids and their anhydrides, acid
 halides, acid peroxides and peracids,
 and their halogenated, sulphonated,
 nitrated or nitrosated derivatives:

29.15

(Cont'd)	(1) Other than the following	Free	15	25
	(2) Adipic acid	10	15	25
	(3) Butyl-2-ethylhexyl phthalate (Butyl octyl phthalate)	10	15	25
	(4) Butylisodecyl phthalate	10	15	25
	(5) Butyliso-octyl phthalate	10	15	25
	(6) Dibutyl fumarates	10	15	25
	(7) Dibutyl maleates	10	15	25
	(8) Dibutyl phthalates	10	15	25
	(9) Dibutyl sebacates	10	15	25
	(10) Dicapryl phthalate (di-(2-octyl) phthalate)	10	15	25
	(11) Dicyclohexyl phthalate	10	15	25
	(12) Didecyl phthalate	10	15	25
	(13) Di-2-ethylbutyl phthalate	10	15	25
	(14) Di(2-ethylhexyl)adipate	10	15	25
	(15) Di(2-ethylhexyl)azelate (dioctyl azelate)	10	15	25
	(16) Di(2-ethylhexyl)phthalate	10	15	25
	(17) Di(2-ethylhexyl)sebacate (dioctyl sebacate)	10	15	25
	(18) Di-isodecyl adipate	10	15	25
	(19) Di-isodecyl phthalate	10	15	25
	(20) Di-iso-octyl adipate	10	15	25
	(21) Di-iso-octyl azelate	10	15	25
	(22) Di-iso-octyl phthalate	10	15	25
	(23) Di(2-methoxyethyl)phthalate	10	15	25
	(24) Dimethylcyclohexyl phthalate	10	15	25
	(25) Dimethyl terephthalate	Free	Free	10
	(26) Ditridecyl phthalate	10	15	25
	(27) 2-Ethylhexyl-n-decyl phthalate	10	15	25
	(28) Ferrous fumarate	10	15	25
	(29) Fumaric acid	10	15	25
	(30) Lead phthalate, dibasic	10	15	25
	(31) Maleic acid	10	15	25
	(32) Maleic anhydride	10	15	25
	(33) n-Octyl n-decyl adipate	10	15	25
	(34) n-Octyl n-decyl phthalate	10	15	25
	(35) Oxalic acid	10	15	25
	(36) Phthalic acid	10	15	25
	(37) Phthalic anhydride	10	15	25

Ammonium oxalate, ammonium-iron oxalate, benzylbutyl phthalate (921), butylcyclohexyl phthalate (921), benzyl sodium succinate, butyldecyl phthalate (921), calcium oxalate, calcium succinate, diamyl phthalate (921), dibenzyl sebacate (921), dibenzyl succinate, di(2,2-butoxyethoxy)ethyl adipate (921), di(2-butoxyethyl) phthalate (921), dichlorophthalic acid (921), dichlorophthalic anhydride (921), di-n-decyl adipate (921), di(2(2 ethoxy)ethyl) phthalate (921), diethylene glycol phthalate (921), di(2-ethylhexyl)hexahydrophthalate (921), di(2-ethylhexyl)isodecyl phthalate (921), di(2-ethylhexyl)maleate (921), diethyl malonate, diethyl oxalate (921), diethyl phthalate (921), diethyl succinate, di-isobutyl adipate (921), di-isobutyl azelate (921), di-isobutyl carbonyl phthalate (921), di-isohexyl phthalate (921), dimethyl oxalate, dimethyl phthalate (219a, 791, 921), dinonyl

adipate (921), dinonyl phthalate (921), ferric potassium oxalate, ferric sodium oxalate, ferrous oxalate, isobutyl isodecyl phthalate (921), isobutyliso-octyl phthalate (921), malonic acid, octyleneglycol sebacate (921), potassium oxalate, pyrethrin II (791), sebacic acid (921), sodium oxalate, succinic acid (923), succinic anhydride (921), tetrachlorophthalic acid and tetrachlorophthalic anhydride (921), are products which came to the Board's attention; there are no extensive data relating to them; subject to the end-use provisions, noted in parentheses, they are entered, at rates of Free and 15 p.c., as chemicals or acids of a kind not produced in Canada, under tariff items 208t or 216. Note on end-use items: 219 see Recommended Item 38.11 and 791 see Recommended Item R-35. For all of these products the Board recommends continued rates of Free and 15 p.c.

Adipic acid is produced in Canada only by Du Pont of Canada Ltd. Though the producer claimed capacity to satisfy the entire Canadian demand, over 95 per cent of the production was used captively in nylon production. The volume of imports was said to be negligible and imports were only for uses other than nylon production. Adipic acid is now subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c., though it is subject to free entry under the provisions of tariff item 923 when imported for the manufacture of synthetic resins, its main use. The producer proposed the somewhat high protective rates of 25 p.c. and 30 p.c. for adipic acid and nylon intermediates; the matter is discussed in Recommended Item 29.22 and, in accordance with the conclusions reached in Recommended Item 29.22, the Board recommends rates of 10 and 15 p.c.

A group of plasticizers, made in Canada by one or more of four companies, was the subject of representations before the Board. Several are now ruled to be made in Canada and are, consequently, subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c.; these include butyl-2-ethyl hexyl phthalate, dibutyl fumarates, dibutyl maleates, dibutyl phthalates, dibutyl sebacates, dicapryl phthalate, dicyclohexyl phthalate, di(2-ethylhexyl)adipate, di(2-ethylhexyl)azelaate, di(2-ethylhexyl) phthalate, di(2-ethylhexyl) sebacate, diisodecyl adipate, di-isodecyl phthalate, di-iso-octyl adipate, di-iso-octyl phthalate, di-(2-methoxyethyl) phthalate, dimethylcyclohexyl phthalate and ditridecyl phthalate. Others are not ruled to be made in Canada and are consequently subject to entry under tariff item 208t at rates of Free and 15 p.c., or to entry under the end-use provisions of tariff item 921, free of duty; these latter include butylisodecyl phthalate, butylisodecyl phthalate, butyliso-octyl phthalate, di-2-ethylbutyl phthalate, di-iso-octyl azelaate, 2-ethylhexyl-n-decyl phthalate, n-octyl n-decyl adipate and n-octyl n-decyl phthalate. The expanding Canadian market for plasticizers was estimated to be about 20 million pounds in 1961; imports were then estimated at about 5 or 6 million pounds annually. The domestic producers were concerned about the degree of substitutability that exists among the many plasticizers and sought rates of 15 p.c. and 20 p.c. for all plasticizers, whether of a kind produced in Canada or not. For the plasticizers mentioned in this paragraph, the Board recommends rates of 10 p.c. and 15 p.c.

Beyond the foregoing group, there are a number of plasticizers among the products in the first paragraph of this Summary which are not produced in Canada for which the Board has recommended rates of Free and 15 p.c.

Dimethyl terephthalate, not produced in Canada, is generally subject to rates of Free and 15 p.c. under tariff item 208t and to free entry under tariff item 921, when for use in the manufacture of synthetic resins; imports are now largely for the latter purpose. The Board recommends free entry under both Tariffs.

Ferrous fumarate and dibasic lead phthalate, which were not the subject of representations, are both ruled to be made in Canada and consequently admissible under tariff item 711 at rates of 15 p.c. and 20 p.c. For both, the Board recommends rates of 10 p.c. and 15 p.c.

Fumaric acid is produced in Canada by one producer, though at the time of the hearing its capacity was not adequate for the domestic market. In recent years imports have been in the neighbourhood of two and a quarter million pounds with a value of about \$300,000. Subject to the end-use provisions of tariff items 791 and 921 this product is entered under tariff item 216 at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Maleic acid and maleic anhydride are both produced in Canada, though the acid occurs only as an intermediate in the production of the anhydride and is not marketed nor ruled to be produced in Canada. For the anhydride the producer's capacity was said to be sufficient for the needs of the domestic market. Subject to the end-use provisions of tariff items 921 and 923 the acid is entered under tariff item 216 at rates of Free and 15 p.c. and subject to the provisions of end-use item 791 (Recommended Item R-35) the anhydride is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. For both maleic acid and maleic anhydride the Board recommends rates of 10 p.c. and 15 p.c.

Oxalic acid has one producer in Canada; in 1961 the Canadian market was estimated in excess of one million pounds annually; in 1963 imports exceeded one million pounds valued at \$150,000. It is now entered under tariff item 208q at rates of Free and $7\frac{1}{2}$ p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Phthalic acid (ortho-phthalic acid; naphthalic acid; ortho-benzene dicarboxylic acid) was not the subject of representations to the Board. Subject to end-use item 921, it is entered under item 216 at rates of Free and 15 p.c. In line with its recommendation for phthalic anhydride the Board recommends rates of 10 p.c. and 15 p.c.

Phthalic anhydride is produced in Canada. It is largely used in the production of synthetic resins and plasticizers. There are important exports. France and the United States are the most important sources of imports. There has been considerable instability of price in imports over the years. Most imports are entered free of duty under the end-use provisions of tariff item 923 and the remainder, under tariff item 711 at rates of 15 p.c. and 20 p.c., rates which the producers sought to have maintained. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.16 Alcohol-acids, aldehyde-acids, ketone-acids, phenol-acids and other single or complex oxygen-function acids, and their anhydrides, acid halides, acid peroxides and peracids, and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Antimony lactate	Free	Free	Free
(3) Antimony potassium tartrate	Free	Free	Free
(4) Bismuth gallate	10	15	25
(5) Bismuth gallate, basic	10	15	25
(6) Bismuth salicylate	10	15	25
(7) Bismuth salicylate, basic	10	15	25
(8) Cholic acid	10	15	25
(9) Citric acid	10	15	25
(10) Dehydrocholic acid	10	15	25
(11) Desoxycholic acid	10	15	25
(12) Diacetoneketogulonic acid	Free	Free	25
(13) 2,4-Dichlorophenoxyacetic acid	10	15	25
(14) Dioctyl diglycollate	10	15	25
(15) Essential oils, natural and synthetic, of this Item	Free	7½	7½
(16) Gallic acid	Free	Free	Free
(17) 3b-Hydroxy-5-cholenic acid	10	15	25
(18) 12-Hydroxystearic acid	10	15	25
(19) Hyocholic acid	10	15	25
(20) Hyodesoxycholic acid	10	15	25
(21) 2-Methyl-4-chlorophenoxyacetic acid	10	15	25
(22) Monocalcium citrate	Free	Free	25
(23) Potassium bitartrate	Free	10	25
(24) Potassium citrate (tripotassium citrate)	10	15	25
(25) Potassium tartrate, neutral	10	15	25
(26) Propyl gallate	10	15	25
(27) Sodium citrate (trisodium citrate)	10	15	25
(28) Sodium dehydrocholate	10	15	25
(29) Tartaric acid	Free	10	25
(30) 2,4,5-Trichlorophenoxyacetic acid	10	15	25

Acetylorthocresotic acid, aluminum acetyl salicylate, aluminum citrate, ammonium ferric citrate (*219h), ammonium gluconate, amyl tartrates, anisic acid, bismuth lactate; bismuth-3,4,5,-trihydroxy-2-iodobenzoate; bornyl salicylate, n-butyl-p-hydroxybenzoate, butyl lactate (92l), butyl salicylate, butyl tartrates, calcium citrate, calcium gluconate, calcium gluconate galactogluconate, calcium lactate, calcium lactobionate, calcium mandelate, calcium salicylate, calcium tartrate, chloromethylphenoxybutyric acid (79l), 4-chloro-2-methylphenoxypropionic acid (79l), cresotic acid (203f), cyclandelate, 2,4-dichlorophenoxybutyric acid (219a, 79l), ethyl acetoacetate (92l);

ethyl-beta-3,4-dihydroxyphenylpropionate; ethyl-p-hydroxybenzoate, ethyl lactate (921), ethyl tartrates, ferric citrate, ferrous gluconate, ferrous lactate, gluconic acid, glycerol monoricinoleate, glycerol monosalicylate, glycol salicylate, meta-hydrobenzoic acid, para-hydrobenzoic acid, hydroxy-anthracenecarboxylic acids, isobutyl-p-hydroxybenzoate, lithium citrate, lithium salicylate, magnesium citrate, magnesium gluconate, magnesium lactate, malic acid, other mandelates, mandelic acid, manganese citrate, manganese gluconate, menthyl salicylate, mercury lactate, methyl gallate (219a, 791), methyl-p-hydroxybenzoate, naphthyl salicylates, phenyl salicylate, piperonylic acid, potassium gluconate, potassium hydrogen tartrate, potassium salicylate, potassium sodium tartrate, propyl-p-hydroxybenzoate, salicylic acid, sodium citrate dibasic, sodium glyconate, sodium hydrogen tartrate, sodium-p-hydroxybenzoate, sodium lactate, sodium salicylate, sodium tartrate, strontium lactate, 5-sulphosalicylic acid, tributyl citrate (921); 3,3,3-trichlorolactic acid; triethyl citrate (921), zinc glucoheptonate and zinc lactate are entered at rates of Free and 15 p.c. under tariff items 208t or 216, subject to the end-use provisions indicated in parentheses. Note on end-use items: 219a and 219h see Recommended Item 38.11 and 791 see Recommended Item R-35. Three products of this Recommended Item are entered free of duty under tariff items 901(a)9 and 901(b)8; they are: 3,4-epoxy-6-methylcyclohexylmethyl-3,4-epoxy-6-methylcyclohexane carboxylate; 3,4-epoxycyclohexylmethyl-3,4-epoxy cyclohexyl carboxylate and bis (3,4-epoxy-6-methylcyclohexylmethyl) adipate. Two further products are entered under tariff item 711 at rates of 15 p.c. and 20 p.c. as unenumerated products: glyceryl tri (12-acetyl ricinoleate) and methyl ricinoleate. For all these products the Board recommends rates of Free and 15 p.c.

Acetylsalicylic acid is not produced in Canada; it is imported principally from Britain but also from the United States and France; in 1964 imports totalled nearly 2 million pounds with a value of nearly \$900,000. It is entered under tariff item 216 at rates of Free and 15 p.c. All the proposals were for continued rates of Free and 15 p.c. which the Board recommends.

Antimony lactate, now duty-free under tariff item 208, was not the subject of representations to the Board. Continuation of free entry is recommended.

Antimony potassium tartrate, often known as tartar emetic, is now entered free of duty under all Tariffs under tariff item 208. It was not the subject of representations before the Board which recommends continued free entry.

The bile acids include cholic acid, dehydrocholic acid, desoxycholic (or deoxycholic) acid, 3b-hydroxy-5-cholenic acid, hyocholic acid and hyodesoxycholic acid; the dehydrocholic and desoxycholic acids, as acids ruled to be of a kind produced in Canada, are entered under tariff item 711 at rates of 15 p.c. and 20 p.c.; the other four bile acids listed above are entered under tariff item 216 at rates of Free and 15 p.c. and duty-free under end-use item 863. Canada Packers is the sole producer of these acids in Canada; they are used as intermediates in the manufacture of pharmaceuticals; there is import competition from the United States though imports were said not to be of serious concern. A substantial proportion of the production of dehydrocholic, cholic and desoxycholic acids is exported. For all six acids the Board recommends rates of 10 p.c. and 15 p.c.

Bismuth gallate, bismuth gallate basic, bismuth salicylate and bismuth salicylate basic are now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind produced in Canada. The Board recommends rates of 10 p.c. and 15 p.c.

Citric acid is made in Canada by two producers; it is widely used in foods, beverages and pharmaceuticals; it also has industrial uses. Imports and exports were said to be small; competition from the United States and Britain appeared to be of less concern than that from Belgium. Citric acid is now imported under tariff item 711 at rates of 15 p.c. and 20 p.c. The producers, apprehensive about what they considered to be a world surplus and a depressed price situation, sought rates of 20 p.c. and 25 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Diacetoneketogulonic acid's only known use is in the production of ascorbic acid, otherwise known as Vitamin C. For this use, it is imported free of duty under both Tariffs under the end-use provisions of tariff item 216d; it would otherwise be subject to entry at rates of Free and 15 p.c. under tariff item 216. The only Canadian producer of Vitamin C imports the product from an affiliate in Switzerland. The Board recommends free entry under both Tariffs.

2,4-Dichlorophenoxyacetic acid (2,4-D) is made in Canada by one producer; its derivatives are used as herbicides, largely in the Prairie Provinces. The producer's productive capacity was said to be in excess of domestic requirements. There are both imports and exports of the herbicide products based on this acid. Subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35) it would now be classified in tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Dioctyl diglycollate, ruled made in Canada, was not the subject of representations to the Board. It is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

The essential oils, natural or synthetic, of this Recommended Item include amyl salicylate, benzilic acid (863), benzyl salicylate, ethyl salicylate and methyl salicylate (219a, 791); subject to the end-use provisions indicated in parentheses, they are subject to entry at rates of Free and $7\frac{1}{2}$ p.c., under tariff item *264a. Note on end-use items: 219a see Recommended Item 38.11, 791 see Recommended Item R-35. Tariff item *264a is not within the terms of this Reference and the Board is recommending continuation of the existing rates of Free and $7\frac{1}{2}$ p.c.

Gallic acid, not the subject of representations before the Board, is now entered free of duty under all Tariffs under tariff item 203. The Board recommends continued free entry.

3-Hydroxy-2-naphthoic acid is not produced in Canada; it is used in the production of coloured pigments and, in the textile industry, for fixing dyes. Both the colour makers and the textile interests sought free entry until there was Canadian production. The

acid is now, subject to the end-use provisions of tariff item 203f, entered under tariff item 216 at rates of Free and 15 p.c. which the Board recommends be continued.

12-Hydroxystearic acid is a fatty acid of Recommended Item 15.10 if the content of this acid is less than 90 per cent by weight of the product; otherwise it is classified in Recommended Item 29.16. It is now entered under tariff item 711 as a chemical of a kind produced in Canada at rates of 15 p.c. and 20 p.c. The Board, as it does for the product subject to entry under Recommended Item 15.10, recommends rates of 10 p.c. and 15 p.c.

Lactic acid is not produced in Canada; in 1964, 673,000 pounds valued at \$178,000 were imported. Most imports were from Britain, other sources were Holland and the United States. It is currently imported under tariff item 216 at rates of Free and 15 p.c., the rates proposed by all interested parties who made representations. The Board recommends rates of Free and 15 p.c.

2-Methyl-4-chlorophenoxyacetic acid (MCP) was not made in Canada at the time of the hearing in 1961, though one company expected to produce it in the near future; in the latter half of 1965 it had not yet been ruled to be a chemical of a kind produced in Canada. It is used in the production of herbicides; its derivatives were said to sell at lower prices in Canada than in the United States. It is usually imported from Britain or Europe. Subject to the end-use provisions of tariff item 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), it is dutiable under tariff item 216 at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Monocalcium citrate is entered free of duty under both Tariffs under end-use item *216f when for use in the manufacture of citric acid and salts thereof. Otherwise it is entered under tariff item 208t at rates of Free and 15 p.c. Most imports are believed to be under end-use item *216f. The Board recommends duty-free entry under both Tariffs.

Potassium bitartrate is now entered under tariff item 208o at rates of Free and 10 p.c. No representations were made to the Board concerning this product; it recommends continued rates of Free and 10 p.c.

Potassium citrate is produced in Canada and admissible under tariff item 711 at rates of 15 p.c. and 20 p.c. It is used almost exclusively in making pharmaceuticals and foods. Imports are small. The Board recommends rates of 10 p.c. and 15 p.c.

Potassium tartrate neutral of A.R. grade is subject to entry under tariff item 208t at rates of Free and 15 p.c. and of other grades, under tariff item 711 as a chemical of a kind produced in Canada at rates of 15 p.c. and 20 p.c. It was not the subject of representations. Without distinction as to grade the Board recommends rates of 10 p.c. and 15 p.c.

Propyl gallate is subject to entry under tariff item 711, as a chemical of a kind produced in Canada, at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Sodium citrate is made in Canada by two producers with a combined productive capacity in excess of domestic requirements. Imports and exports are small. It is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Sodium dehydrocholate is now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical ruled to be of a kind produced in Canada. It was not the subject of any discussion before the Board which recommends rates of 10 p.c. and 15 p.c.

Tartaric acid is now entered under tariff item 2080 at rates of Free and 10 p.c. It was not the subject of representations before the Board which recommends continued rates of Free and 10 p.c.

2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) is produced in Canada and, subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. It enters into the production of herbicides. The products of the acid sell at lower prices in Canada than in the United States. Sales by herbicide formulators run in the vicinity of 300,000 to 600,000 pounds annually; there have been exports which are expected to increase. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.17 Sulphuric esters and their salts, and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Cetyl sulphate and the ammonium, lithium, potassium and sodium salts of cetyl hydrogen sulphate	10	15	25
(3) Decyl sulphate and the ammonium, lithium, potassium and sodium salts of decyl hydrogen sulphate	10	15	25
(4) Dimethyl sulphate	Free	Free	Free
(5) Hexyl sulphate and the ammonium, lithium, potassium and sodium salts of hexyl hydrogen sulphate	10	15	25
(6) Isodecyl sulphate and the ammonium, lithium, potassium and sodium salts of isodecyl hydrogen sulphate	10	15	25
(7) Iso-octyl sulphate and the ammonium, lithium, potassium and sodium salts of iso-octyl hydrogen sulphate	10	15	25
(8) Lauryl sulphate and the ammonium, lithium, potassium and sodium salts of lauryl hydrogen sulphate	10	15	25

29.17

(Cont'd) (9) Nonyl sulphate and the ammonium, lithium, potassium and sodium salts of nonyl hydrogen sulphate	10	15	25
(10) Octyl sulphate and the ammonium, lithium, potassium and sodium salts of octyl hydrogen sulphate	10	15	25
(11) Oleyl sulphate and the ammonium, lithium, potassium and sodium salts of oleyl hydrogen sulphate	10	15	25
(12) Stearyl sulphate and the ammonium, lithium, potassium and sodium salts of stearyl hydrogen sulphate	10	15	25
(13) Tridecyl sulphate and the ammonium, lithium, potassium and sodium salts of tridecyl hydrogen sulphate	10	15	25

Diethyl sulphate, ethyl hydrogen sulphate, methyl hydrogen sulphate and sodium-2,4-dichlorophenoxyethyl sulphate are now entered under item 208t at rates of Free and 15 p.c., though the last product is also subject to free entry under the end-use provisions of tariff item 791 (Recommended Item R-35). For them the Board recommends continued rates of Free and 15 p.c.

Dimethyl sulphate was not the subject of special representations. It is now entered free of duty under tariff item 208w 3. The Board recommends continued free entry.

A group of sulphuric esters and their ammonium, lithium, potassium and sodium salts were the subject of representations. They are the sulphated derivatives of the following alcohols: cetyl, decyl, hexyl, isodecyl, iso-octyl, lauryl, nonyl octyl, oleyl, stearyl and tridecyl. They include as well the ammonium, lithium, potassium and sodium salts of the corresponding acid sulphates. Of these, some of the cetyl sulphates, lauryl sulphates and stearyl sulphates are entered under tariff item 711 at rates of 15 p.c. and 20 p.c. as chemicals of a kind produced in Canada. The remainder are entered under tariff item 208t at rates of Free and 15 p.c. subject to the end-use provisions of tariff item 791 (Recommended Item R-35) in the case of the oleyl sulphate.

Some sulphuric esters of the alcohols named in the preceding paragraph and some of the corresponding salts are made in Canada by Hart Products Co. of Canada Ltd. Derivatives of the cetyl, lauryl, oleyl and stearyl alcohols were produced in commercial quantities in 1961 while derivatives of the other alcohols were produced only on a limited scale. They are all surface-active agents and are rather widely substitutable for one another. Few published statistics are available. Incomplete data reveal imports of about \$500,000. Both Hart Products and the Proctor and Gamble Company Canada Limited sought rates of 15 p.c. and 20 p.c. For all these products the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.18 Nitrous and nitric esters, and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Essential oils, natural and synthetic, of this item	Free	7½	7½
(3) Ethyl nitrite per gallon and	\$3.00 30	\$3.00 30	\$3.00 30
(4) Mannitol hexanitrate	10	15	25
(5) Nitroglycerol (glyceryl trinitrate)	10	15	25
(6) Nitroglycol	10	15	25
(7) Pentaerythritol tetranitrate	10	15	25

Amyl nitrate, amyl nitrite, butyl nitrate, butyl nitrite, erythritol tetranitrate, glycerol tetranitrate, isosorbide dinitrate, methyl nitrate, methyl nitrite, propyl nitrates and propyl nitrite are all entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. The Board recommends continued rates of Free and 15 p.c.

The only essential oil, natural or synthetic, of this Recommended Item which came to the Board's attention was ethyl nitrate, now entered at rates of Free and 7½ p.c. under tariff item *264a which is not within the scope of this Reference. The Board recommends continued rates of Free and 7½ p.c.

Ethyl nitrite, also known as nitrous ether, is largely used for the production of spirit of ethyl nitrite, known also as sweet spirits of nitre or spirit nitrous ether; this spirit is an alcoholic solution of about 4 per cent ethyl nitrite. The ethyl nitrite of commerce contains 90 to 95 per cent ethyl nitrite, the remainder being chiefly alcohol as a preservative. Ethyl nitrite is now entered as "nitrous ether" under tariff item *159b at rates of \$3.00 per gallon and 30 p.c. under all Tariffs; tariff item *159b was not referred to the Board for report. The Board has recommended certain changes in the tariff status of ethyl alcohol under tariff item *156f which moved it to consider inclusion of tariff item *159b with reference to ethyl nitrite. However it appears that there are a number of somewhat similar items dealing with products containing alcohol and this whole area appeared clearly to be beyond the scope of the Reference. Consequently, for uniformity of nomenclature the Board is listing ethyl nitrite in its Recommended Item at the rates now prevailing in tariff item *159b: \$3.00 per gallon and 30 p.c. under all Tariffs.

Mannitol hexanitrate, nitroglycerol and nitroglycol are now entered under tariff item 666 as explosives at rates of 1¼ cents and 2¼ cents per pound. When for use in the manufacture of explosives, mannitol hexanitrate and nitroglycol are free of duty under tariff item 664a. When stabilized with lactose, mannitol hexanitrate is subject to tariff item 220a(i) at rates of 15 p.c. and 20 p.c. In line with its recommendations for explosives in Recommended Item 36.01, the Board recommends rates of 10 p.c. and 15 p.c.

Pentaerythritol tetranitrate is also a product with explosive properties. It is made in Canada by one producer; the production is largely for captive use. The product is entered under tariff item 666 at rates of $1\frac{3}{4}$ cents and $2\frac{1}{4}$ cents per pound. When used in the manufacture of explosives, it is free of duty under tariff item 664a and when shipped admixed with lactose it is subject to tariff item 220a(i) at rates of 15 p.c. and 20 p.c. The producer sought rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.19 Phosphoric esters and their salts including lactophosphates, and their halogenated, sulphonated, nitrated or nitrosated derivatives:			
(1) Other than the following	Free	15	25
(2) Amyl acid phosphates	10	15	25
(3) n-Butyl acid phosphates	10	15	25
(4) Dodecyl acid phosphates	10	15	25
(5) Ethyl acid phosphates	10	15	25
(6) Heptadecyl acid phosphates	10	15	25
(7) Hexadecyl acid phosphates	10	15	25
(8) Isobutyl acid phosphates	10	15	25
(9) Nonyl acid phosphates	10	15	25
(10) Octyl acid phosphates	10	15	25
(11) Propyl acid phosphates	10	15	25

Calcium glycerophosphate (921), ferric glycerophosphate, glycerophosphoric acid, inositolhexaphosphates, lactophosphates, magnesium glycerophosphate (921), manganese glycerophosphate; 2-methyl-1,4-naphthohydroquinone diphosphate; octyl diphenyl phosphate, phytic acid, potassium glycerophosphate, sodium glycerophosphate and tri-guaiacyl phosphate, with the exception of glycerophosphoric acid entered under tariff item 216 at rates of Free and 15 p.c. and of inositolhexaphosphates and phytic acid entered under tariff item 218 at rates of Free and 25 p.c., are now entered under tariff item 208t at rates of Free and 15 p.c.; the lactophosphates may be entered free of duty for certain end-uses under tariff item *219h (which would remain unchanged) and calcium glycerophosphate, magnesium glycerophosphate and octyl diphenyl phosphate may also be entered free of duty under end-use item 921. For all these products the Board recommends rates of Free and 15 p.c.

Amyl acid phosphates, n-butyl acid phosphates, dodecyl acid phosphates, ethyl acid phosphates, heptadecyl acid phosphates, hexadecyl acid phosphates, isobutyl acid phosphates, nonyl acid phosphates, octyl acid phosphates and propyl acid phosphates are now entered under tariff item 218 at rates of Free and 25 p.c. All of these phosphates are made in Canada by one producer: four of them in commercial quantities and six of them in experimental quantities. All of them are made in the same equipment and for similar uses. For all of these products the Board is recommending rates of 10 p.c. and 15 p.c.

Dimethyl carbomethoxy propenyl phosphate; dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate; dimethyl dichlorovinyl phosphate (dichlorvos) and tetraethyl pyrophosphate are now imported free of duty under the end-use provisions of tariff item 791 (Recommended Item R-35) by manufacturers of pesticides; for uses not benefitting by end-use items they would be imported under tariff item 208t at rates of Free and 15 p.c. which the Board recommends.

Tributoxyethyl phosphate, subject to the end-use provisions of tariff item 921, is entered under tariff item 208t at rates of Free and 15 p.c. It is a primary plasticizer. For it the Board recommends rates of Free and 15 p.c.

Tributyl phosphate, tricresyl phosphate (220e, 921), triethyl phosphate (791 - see Recommended Item R-35, 921), triphenyl phosphate (921) and trixylenyl phosphate (220e, 921) are now entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada; they are subject to the end-use items noted in parentheses. All are imported by Electric Reduction Co. for resale in Canada. The Board recommends continued rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.20 Carbonic esters and their salts, and their halogenated, sulphonated, nitrated or nitrosated derivatives	Free	15	25

Of the chemicals in this Recommended Item only three came to the Board's attention: diethyl carbonate, diguaiacyl carbonate, and tetraethyl orthocarbonate. They are all now entered under tariff item 208t as chemicals of a kind not produced in Canada, at rates of Free and 15 p.c.; diethyl carbonate may also be entered free of duty under end-use item 921. Only one, guaiacol carbonate, was the subject of representations and these were for continued rates of Free and 15 p.c. For this Recommended Item the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.21 Other esters of mineral acids (excluding halides) and their salts, and their halogenated, sulphonated, nitrated or nitrosated derivatives	Free	15	25

2-(p-tert-Butylphenoxy)isopropyl-1-2-chloroethyl sulphite, diethyldichlorophenyl thiophosphate; 0,0-dimethyl-O-(2,4,5-trichlorophenyl)phosphorothionate; dioxane-bis(diethyl)dithiophosphate and parathion are pesticides not produced in Canada. For pesticide use they are entered free of duty under tariff item 791 (Recommended Item R-35); for general use they would be entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of Free and 15 p.c.

Diphenyl isodecyl phosphite, tridecyl phosphite and triphenyl phosphite are used to make stabilizers for the manufacture of vinyl type resins; for this purpose triphenyl phosphite is entered free of duty under both Tariffs under tariff item *216e and for other uses it is entered under tariff item 208t at rates of Free and 15 p.c.; diphenyl isodecyl phosphite and tridecyl phosphite (also subject to end-use item 921, entered under tariff item 208t at rates of Free and 15 p.c. For all these products the Board recommends rates of Free and 15 p.c.

Sodium-0,0-dibutyl dithiophosphate, sodium-0,0-ditolyl dithiophosphate and tetraethyl silicate were not the subject of representations before the Board. Subject to end-use item 791, (Recommended Item R-35) for the first two, the three products are entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends continued rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.22 Amine-function compounds:			
(1) Other than the following	Free	15	25
(2) Aniline	10	15	25
(3) N-sec-butyl-N'-phenyl-p-phenylene-diamine	10	15	25
(4) N,N'-di-sec-butyl-p-phenylene-diamine	10	15	25
(5) 2,4-Dichlorophenoxyacetic acid amine salts	10	15	25
(6) N,N'-di-isopropyl-p-phenylene-diamine	10	15	25
(7) N-(1,3-dimethyl butyl)-N'-phenyl-p-phenylenediamine	10	15	25
(8) Diphenylamine	10	15	25
(9) N,N'-diphenyl-p-phenylenediamine	10	15	25
(10) Hexamethylene diamine	10	15	25
(11) Hexamethylene diammonium adipate	10	15	25
(12) N-Isopropyl-N'-phenyl-p-phenylene-diamine	10	15	25
(13) 2-Methyl-4-chlorophenoxyacetic acid amine salts	10	15	25
(14) Methyltrinitrophenylnitramine	10	15	25
(15) N-Nitrosodiphenylamine	10	15	25
(16) Phenyl-b-naphthylamine	10	15	25
(17) 2,4,5-Trichlorophenoxyacetic acid amine salts	10	15	25

Allylisopropylamine, m-aminobenzene sulphonic acid (203f), 2-aminoheptane, 6-aminonaphthylene-2-sulphonic acid (203f), amphetamine, amphetamine phosphate dibasic, amphetamine sulphate, benzidine (203f), benzylamine, N-benzyl dimethylamine, N-benzylmethylamine, butylchlorophenylmethyl methyl phosphoramidate (791), 2-chloro-4-amino-toluene-5-sulphonic acid (203f), 2-chloro-5-aminotoluene-4-sulphonic acid (203f), o-chloro-p-nitroaniline (203f), p-chloro-o-nitroaniline,

diaminodiphenylamine, p-diaminostilbene, dibenzylamine, dibenzylethylenediamine, N,N'-dibenzylethylenediamine diacetate (875a), dibutylamine (203f, 791, 851), 2,5-dichloroaniline (203f), 3,3'-dichlorobenzidine (203f), dichlorophenylmethylisopropyl phosphoramidothionate (791), diethylaniline (203f, 921), dimethylaminocyclohexane, dimethylnitrosamine (203f), dimethylnitrosoaniline (203f), diphenylethylenediamine, ethylamine (203f), ethylaniline, ethylenediamine (203f, 921), hexylcaine hydrochloride, mecamylamine hydrochloride, mephentermine sulphate, methamphetamine hydrochloride, methylamine (203f, 791), methylaniline; N,N'-bis(methylheptyl)-p-phenylenediamine (203f); methylnitrosoaniline (203f); N,N'-bis(1-methyl-3-(2,2,6-trimethylcyclohexyl) propyl)-N,N-dimethyl-1,6-hexanediamine-bis-(methochloride); a-naphthylamine (791), b-naphthylamine (203f), 1-naphthylamine-2-sulphonic acid (203f), 2-naphthylamine-1-sulphonic acid (203f), nitroaniline (203f), nitrosoanilines (203f), m-nitro-o-toluidine (203f), p-nitro-o-toluidine (203f), phenylenediamine (203f), b-phenylethylamine (875a), phenyl-a-naphthylamine (203f), propylhexedrine, propylhexedrine hydrochloride, sulphanilic acid (203f), toluidine (203f), p-toluidine-m-sulphonic acid (203f), tolylenediamines (203f), tranylcypromine sulphate, tribenzylamine, triethylamine, m-trifluoromethylaniline, trimethylamine (791, 921), and xylidene (203f), subject to the end-use items indicated in parentheses, are all chemicals entered at rates of Free and 15 p.c. under tariff item 208t or 216 as chemicals or acids of a kind not produced in Canada. Note on end-use items: 791 see Recommended Item R-35, 851 remain unchanged. For the foregoing products the Board recommends rates of Free and 15 p.c.

Aniline, made in Canada by Naugatuck Chemicals, is used to make chemicals for the production of rubber and pesticides; 95 per cent of the company's production is used captively in the production of chemicals, only 5 per cent being for merchant sales. The price was said to be 19 cents per pound in tank car lots. Imports were estimated at less than 1 per cent of domestic production. Aniline is entered free of duty under tariff item 203 when it is a crude aniline oil; aniline salts are also entered under tariff item 203; aniline, in its various forms, is also entered free of duty for the end-uses mentioned in tariff item 203f and item 851 (which would remain unchanged); the synthetic aniline produced by Naugatuck is subject to rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical of a kind produced in Canada. The company proposed continuation of these rates. The Board recommends rates of 10 p.c. and 15 p.c.

Two products, N-sec-butyl-N'-phenyl-p-phenylenediamine and N-(1,3-dimethyl butyl)-N'-phenyl-p-phenylenediamine are now ruled to be chemicals of a kind produced in Canada and consequently entered under tariff item 711 at rates of 15 p.c. and 20 p.c. They may also be entered free of duty under end-use item 203f and item 851 which would remain unchanged. No representations were made concerning them. For both the Board recommends rates of 10 p.c. and 15 p.c.

Cyclohexylamine, used in the manufacture of a rubber accelerator, is not produced in Canada; it is imported from Britain, the United States and Germany; total Canadian consumption is about 350,000 pounds annually; imports were valued at \$105,000 in 1962 and \$180,000 in 1963. The product is now entered under tariff item 208t at rates of Free and 15 p.c., subject to free entry for the end-uses named in

tariff items 203f and 791 (Recommended Item R-35). Two consumers sought free entry, one urging that the source of supply in Britain was inadequate. The Board recommends rates of Free and 15 p.c.

N,N'-di-sec-butyl-p-phenylenediamine and N,N'-di-isopropyl-p-phenylenediamine are now ruled to be chemicals of a kind produced in Canada and consequently subject to end-use item 203f and item 851 (which would remain unchanged) they are entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

The amine salts of 2,4-dichlorophenoxyacetic acid, 2-methyl-4-chlorophenoxyacetic acid and 2,4,5-trichlorophenoxyacetic acid were the subject of representations by the producer of the three acids; for the three acids, in Recommended Item 29.16, the Board recommends rates of 10 p.c. and 15 p.c. The amine salts are used as weed killers and the producer of the acids sought commensurate protection for the formulations its customers make from the salts. These salts, subject to free entry under the end-use provisions of tariff item 791 (Recommended Item R-35), are entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends for these salts, the same rates as for the acids: 10 p.c. and 15 p.c.

Diethylamine and dimethylamine (subject to end-use item 203f) were the subject of representations by Imperial Chemical Industries of Britain. Subject to the end-use provisions of tariff items 791 (Recommended Item R-35), 851 which would remain unchanged and 921 when applicable, these two products are entered under tariff item 208t as chemicals of a kind not produced in Canada at rates of Free and 15 p.c., which I.C.I. sought to have continued. The domestic market for diethylamine was said to be about 100,000 pounds annually and that for dimethylamine, about 400,000 pounds. Both are imported from Britain, the United States and West Germany. A consumer proposed free entry until there was Canadian production. The Board recommends continued rates of Free and 15 p.c.

Di-b-naphthyl-p-phenylenediamine was also the subject of representations by Imperial Chemical Industries; it is used to inhibit the oxidation of rubber; the Canadian market, about 40,000 pounds, is valued at about \$50,000 annually; the product is not made in Canada and most of the demand is supplied from Britain. It is now entered under tariff item 208t at rates of Free and 15 p.c. subject to end-use item 851 which would remain unchanged. The Board recommends continued rates of Free and 15 p.c.

Diphenylamine is made in Canada by only one producer; it had a large wartime use as a stabilizer for smokeless powder and is now largely used in the production of chemicals used to make rubber, a use which provides a captive market for nearly all the producer's output. The price was given as \$1.33 per pound. Subject to end-use item 203f it is imported in small quantities under tariff item 711 at rates of 15 p.c. and 20 p.c. which the producer sought to have continued. The Board recommends rates of 10 p.c. and 15 p.c.

N,N'-Diphenyl-p-phenylenediamine is an antioxidant used in making rubber. It is made in Canada by one producer and it is often

imported in mixtures with other antioxidants. Subject to end-use item 203f and end-use item 851 (which would remain unchanged) it is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

N-Isopropyl-N'-phenyl-p-phenylenediamine is now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical ruled to be of a kind produced in Canada and free of duty under end-use item 851 which would remain unchanged. For it the Board recommends rates of 10 p.c. and 15 p.c.

Methyltrinitrophenylnitramine is now entered as an explosive under tariff item 666 at rates of $1\frac{3}{4}$ cents and $2\frac{1}{4}$ cents per pound; in line with its recommendations for explosives in Recommended Item 36.01, the Board recommends rates of 10 p.c. and 15 p.c.

N-Nitrosodiphenylamine is produced in Canada by one producer. The price was said to be 56.5 cents per pound; data on production and imports are not available. Subject to end-use item 791 (Recommended Item R-35), it is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. which the producer sought to have continued. The Board recommends rates of 10 p.c. and 15 p.c.

Phenyl-b-naphthylamine, used as an antioxidant in the manufacture of rubber, is made in Canada by one producer. In 1962 it was selling for 58 cents per pound; it is often imported in mixtures with other antioxidants. Subject to end-use item 851 which would remain unchanged, it is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Sodium methyl taurine, not produced in Canada, is used as an intermediate in the manufacture of surface-active agents and soap bars. Imports are from the United States; the market was said to be for about 600,000 pounds annually; the price is about 30 cents per pound. It is now, subject to end-use item 203f, entered under tariff item 208t at rates of Free and 15 p.c. Lever Brothers Limited sought free entry under both Tariffs. The Board recommends continued rates of Free and 15 p.c.

Triethylamine phosphate is a corrosion inhibitor used in paint and varnish and in anti-freeze compounds. Electric Reduction Co. could produce this chemical at its Buckingham plant. It is now entered at rates of Free and 15 p.c. under tariff item 208t as a chemical of a kind not produced in Canada. The company proposed rates of 15 p.c. and 20 p.c. The Board recommends continued rates of Free and 15 p.c.

Three nylon intermediates of this Recommended Item, hexamethylene diamine, hexamethylene diammonium adipate and hexamethylene diammonium sebacate gave rise to an extensive presentation on nylon intermediates; other intermediates of importance are adipic acid - 29.15, adiponitrile - 29.27, caprolactam - 29.35 and a cyclohexanol-cyclohexanone mixture - 38.19. Three principal types of nylon were the subject of discussion:

1. Nylon 6, a nylon obtained by polycondensation of caprolactam.

2. Nylon 66 (nylon 6,6 or nylon 6/6) obtained by the condensation of hexamethylenediamine with adipic acid (polyhexamethylene adipamide).
3. Nylon 610 (nylon 6,10 or nylon 6/10) obtained by the condensation of hexamethylenediamine with sebacic acid (polyhexamethylene sebacamide).

In 1965 nylon 66 was made in Canada by Du Pont of Canada Ltd. and by Millhaven Fibres Ltd., a jointly-owned subsidiary of C.I.L. and Chemcell; new facilities are being established by Courtauld's and Union Carbide to make nylon 6. Nylon 66 was the only nylon polymer then made in Canada; its raw materials and intermediate chemicals are also Canadian made; facilities exist for the production of nylon 6 filament from imported polycaprolactam and are being established to produce polycaprolactam from the imported monomer, caprolactam.

In 1961, at the time of the hearing, Du Pont was the only producer of nylon in Canada.

The three nylon intermediates of this Recommended Item are:

- (1) Hexamethylene diamine is made in Canada by Du Pont and used captively to make nylon 66 salt; it has no other uses in Canada; there are no known imports or exports. As a chemical of a kind ruled to be made in Canada it would be subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c.; however it is listed eo nomine in tariff item 923 under which it may be imported free of duty for the manufacture of synthetic resins.
- (2) Hexamethylene diammonium adipate, also known as nylon 66 salt, is produced in Canada by Du Pont only and all the production is used captively in making nylon resin. As a chemical of a kind ruled to be made in Canada it would be subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c.; however it is listed eo nomine in tariff item 923 under which it may be imported free of duty for the manufacture of synthetic resins.
- (3) Hexamethylene diammonium sebacate is neither made nor used in Canada; it is the nylon 610 salt; the polymer is imported and used in the production of monofilaments for brush bristles. As a chemical of a kind not produced in Canada it would be subject to entry under tariff item 208t at rates of Free and 15 p.c.; however it, also, is listed eo nomine in tariff item 923 under which it may be imported free of duty for the manufacture of synthetic resins.

For these three products Du Pont proposed rates of 25 p.c. and 30 p.c. -- the rates it proposed for all the nylon intermediates which it manufactures. Until about 1962 the Du Pont position in the production of nylon enjoyed substantial patent protection which could now be replaced by customs tariff rates of 25 p.c. and 30 p.c. In the company's view all the nylon intermediates should be produced in Canada:

other producers of nylon could either purchase the intermediates from Du Pont as the sole producer or undertake production themselves. Du Pont was apprehensive about world over-supply and estimated its costs to exceed those of competitors by even more than the proposed rates of 25 p.c. and 30 p.c. The company considered that consumers would not be faced with higher prices because of the existing rates on the fibre and because conditions would be competitive. This view was not shared by Courtauld's or Union Carbide, competitors equally apprehensive about compulsion to purchase intermediates from a single producer competing in the field of the final product. The apprehension of Courtauld's and Union Carbide was directed to the intermediates for nylon 6 rather than those for nylon 66. Millhaven Fibres, Du Pont's only Canadian competitor in the production of nylon 6 made no representations of any kind to the Board. Concern was expressed that the proposal of Du Pont was designed to stifle competition. The concern of Du Pont is understandable because of its expressed view that there is not room in Canada for two plants of optimum size producing nylon -- a view obviously not shared by the three other producers.

While the special interests of particular producers should not be neglected, such considerations must influence the Board less than the broader ones of effective competitive production with neither preservation of monopoly nor undue interference with established facilities nor encouragement, through unusually high rates of duty, of the construction in Canada of excess capacity to produce nylon intermediates.

In the Board's view the nylon intermediates produced in Canada should be subject to the rates of 10 p.c. and 15 p.c. it has generally recommended for chemicals produced in Canada. For those not produced in Canada it recommends rates of Free and 15 p.c.

Consequently for hexamethylene diamine and for hexamethylene diammonium adipate the Board recommends rates of 10 p.c. and 15 p.c. and for hexamethylene diammonium sebacate, rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.23 Single or complex oxygen-function amino-compounds:			
(1) Other than the following	Free	15	25
(2) Aluminum glycinate, basic (dihydroxyaluminum amino-acetate)	10	15	25
(3) Diethylenetriamine-N,N,N',N'', N''-pentacetic acid: the di- basic and tri-basic calcium, iron and potassium salts of	10	15	25
(4) Ethanolamines	10	15	25
(5) Ethylenediaminetetra-acetic acid, its sodium salts and its di- basic and tri-basic calcium, iron and potassium salts	10	15	25
(6) Glutamic acid	10	15	25

29.23

(Cont'd) (7) Hydroxyethylethylenediamine-triacetic acid: the di-basic and tri-basic calcium, iron and potassium salts of,	10	15	25
(8) "Deleted"			
(9) Monosodium glutamate	10	15	25
(10) Pentasodium diethylenetriamine-N,N,N',N'',N'''-pentacetate	10	15	25
(11) Sodium-N,N-di(2-hydroxyethyl)glycine	10	15	25
(12) "Deleted"			
(13) Trisodium hydroxyethylethylenediamine tri-acetate	10	15	25

Alanine, b-alanine, aminoanthraquinones (203f), aminobenzaldehydes (203f), aminobenzoic acids (203f), aminocresols (203f), 3-aminocyclohexanol, aminodichlorobenzoic acid (203f, 791), 8-amino-1-naphthol-3,6-disulphonic acid (203f), 7-amino-1-naphthol-3-sulphonic acid (203f), aminophenol (203f), aminosalicylic acids (203f), anisidine (203f), anthrimides, aspartic acid, benzocaine, butacaine, butacaine sulphate, n-butyl-p-aminobenzoate, butyn base, carbetapentane, cresidine (203f), diaminoanthraquinones (203f), diaminophenols (203f), dianisidine (203f), di-(butyl-p-aminobenzoate) trinitrophenol, diethylaminoethanol, 4-(2-dimethylaminoethoxy)-N-(3,4,5-trimethoxybenzoyl) benzylamine hydrochloride, 2-dimethylaminoethyl-2-butyl-benzoate hydrochloride, glucosamine, glutamic acid hydrochloride, glycine, isobutyl-p-aminobenzoate, isoleucine, isoproterenol sulphate, leucine, lysine, lysine dihydrochloride, magnesium aspartate, methadone, methadone hydrochloride, methoxamine hydrochloride, methoxyphenamine hydrochloride, monoisopropanolamine, m-nitro-o-anisidine (203f), m-nitro-p-anisidine (203f), 5-nitro-2-propoxyaniline, nylidrin, orphenadrine dihydrogen citrate, orphenadrine hydrochloride, phenetidines (203f, 851), phenoxybenzamine hydrochloride, phenylalanine, phenylaminocadmium dilactate (791), phenylephrine hydrochloride, phenylglycine, phenylpropanolamine hydrochloride, phenyltoloxamine citrate, potassium aspartate, procaine base (875a), procaine hydrochloride (875a) pseudoephedrine hydrochloride, sarcosine, serine, sodium-p-aminosalicylate, sodium hydrogen glutamate, tetraethyldiaminobenzhydrol, tetraethyldiaminobenzophenone, tetramethyldiaminobenzhydrol (203f), tetramethyldiaminobenzophenone, 2,4,5-trichlorophenoxypropionic acid triethanolamine salt (791), triethanolamine phosphate, triethanolamine-0,0',0''-trinitrate, trimethobenzamide hydrochloride, tyrosine, valetamate bromide and vaniline, subject to the end-use items indicated in parentheses are now generally subject to rates of Free and 15 p.c. under tariff item 208t or 216, except for triethanolamide phosphate which is subject to entry at rates of Free and 25 p.c. under tariff item 218. Note on end-use items: 791 see Recommended Item R-35, 851 would remain unchanged. For all these products the Board recommends rates of Free and 15 p.c.

Aluminum glycinate basic is now ruled to be a chemical of a kind produced in Canada and is, therefore, entered under tariff item 711 at rates of 15 p.c. and 20 p.c. For it the Board recommends rates of 10 p.c. and 15 p.c.

Diethylenetriamine-N,N,N',N'',N'''-pentacetic acid, ethylenediaminetetraacetic acid, hydroxyethylethylenediaminetriacetic acid, certain of the salts of these acids, and sodium-N,N-di (2-hydroxyethyl) glycine form a group of chelating agents upon which representations were made to the Board by a producer of a large number of them. The Canadian market is about 1.25 million pounds with an approximate value of \$500,000; ninety per cent of the market is for ethylene diamine-tetraacetic acid and its sodium salts used in the pulp and paper industry; imports of this latter product, in 1963, amounted to \$55,000 indicating that close to 90 per cent was supplied from domestic sources.

- (a) Ethylenediaminetetra-acetic acid and its sodium salts, subject to end-use items 791 (Recommended Item R-35) and 851 (which would remain unchanged), are now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. as chemicals of a kind produced in Canada; certain of its other salts are entered under tariff item 208t at Free and 15 p.c. For these products the Board recommends rates of 10 p.c. and 15 p.c.
- (b) Diethylenetriamine-N,N,N',N'',N'''-pentacetic acid, disodium diethylenetriaminepentacetate, tetrasodium diethylenetriaminepentacetate and trisodium diethylenetriaminepentacetate, now entered at rates of Free and 15 p.c. under tariff item 208t or 216, are not produced in Canada in commercial quantities. The Board recommends continued rates of Free and 15 p.c.

Pentasodium diethylenetriamine-N,N,N',N'',N'''-pentacetate, entered under tariff item 208t at rates of Free and 15 p.c. is produced in Canada in commercial quantities and for it the Board recommends rates of 10 p.c. and 15 p.c.

- (c) Hydroxyethylethylenediaminetriacetic acid and disodium hydroxyethylethylenediaminetriacetate, entered at rates of Free and 15 p.c. under tariff item 208t or 216, are not domestically produced in commercial quantities and for them the Board recommends continued rates of Free and 15 p.c.

Trisodium hydroxyethylethylenediaminetriacetate, entered under tariff item 208t at rates of Free and 15 p.c. is produced in Canada in commercial quantities and the Board recommends for it rates of 10 p.c. and 15 p.c.

- (d) The di-basic and tri-basic calcium, iron and potassium salts of diethylenetriamine-N,N,N',N'',N'''-penta-acetic acid, of ethylenediaminetetra-acetic acid and of hydroxyethylethylenediaminetriacetic acid now entered under tariff item 208t at rates of Free and 15 p.c. are produced in Canada in commercial quantities and the Board recommends rates of 10 p.c. and 15 p.c.
- (e) Sodium-N, N-di(2-hydroxyethyl) glycine, entered under tariff item 208t at rates of Free and 15 p.c., is produced in Canada in commercial quantities and for it the Board recommends rates of 10 p.c. and 15 p.c.

The ethanolamines: diethanolamine, ethanolamine (monoethanolamine) and triethanolamine, subject to the end-use provisions of tariff item 791 (Recommended Item R-35), and in the case of ethanolamine tariff item 851 (which would remain unchanged) also, are now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind produced in Canada. There are two producers of the three ethanolamines and also one of the triethanolamine. Domestic productive capacity was said to exceed the domestic market requirements. Imports of ethanolamine were said to be about 10 to 15 per cent of the total domestic market; this suggests a market of close to \$2 million. Imports of diethanolamine and triethanolamine were said to be small. Prices in the United States appear to be about 8 per cent lower than in Canada. Imports are largely from the United States and exports mainly to Commonwealth countries. Two of the producers sought continued rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Glutamic acid is produced in Canada for the manufacture of sodium glutamate; it is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Methenamine mandelate appeared in the Recommended Schedule published in Volume 1 of this Report in paragraph (8) of Recommended Item 29.23. It is properly classified in Recommended Item 29.26 where it appears in paragraph (3A).

Monosodium glutamate (sodium glutamate) is produced in Canada by one producer only and entered under tariff item 711 at rates of 15 p.c. and 20 p.c. It is used for the enhancement of food flavours; over half of the domestic use is in tinned and dehydrated soups. The producer, in stressing competition from Japan, the United States and some European countries, represented that some imports at low prices are the result of dumping or subsidization. Three consumers represented that the lower prices were the result of a different and more economic method of production. Though the Canadian producer had about 85 per cent of the total domestic market it had not been able to gain the retail market; it proposed rates of 25 p.c. and 30 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Sodium methyl oleyl taurate appeared in the Recommended Schedule published in Volume 1 of this Report in paragraph (12) of recommended Item 29.23. It is properly classified in Recommended Item 29.25 where it appears in paragraph (12).

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.24 Quaternary ammonium salts and hydroxides; lecithins and other phosphoaminolipins:			
(1) Other than the following	Free	15	25
(2) Alkylbenzyltrialkylammonium chlorides	10	15	25
(3) Benzyltrialkylammonium chlorides	10	15	25

Acetylcholine chloride, benzyldiethyl(2,6-xylyl-carbamoyl-methyl) ammonium benzoate, betaine, betaine hydrochloride, cetyl-trimethylammonium bromide (219a, 791), choline (*219h) choline bitartrate, choline chloride (*219h), choline dihydrogen citrate, domiphen bromide, ethyldimethyl-3-3-hydroxyphenyl ammonium chloride, ethyldimethyl-3-3-hydroxyphenyl ammonium bromide, lecithin (*219h) methacholine chloride, oxyphenonium bromide (219a, 791), succinylcholine chloride, suxamethonium bromide, tetramethylammonium formate (219a, 791) tetramethylammonium hydroxide (219a, 791), tetramethylammonium iodide (219a, 791), tricholine chloride and tricholine citrate, subject to the end-use items indicated in parentheses and with the exception of lecithin entered under tariff item 711 at rates of 15 p.c. and 20 p.c., are entered under tariff item 208t as chemicals of a kind not produced in Canada at rates of Free and 15 p.c. Note on end-use items: 219a see Recommended Item 38.11, *219h would remain unchanged, 791 see Recommended Item R-35. For all these products the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.25 Amide-function compounds:			
(1) Other than the following	Free	15	25
(2) Acetaminophen (p-acetamidophenol)	10	15	25
(3) N,N-Diethyl-m-toluamide	10	15	25
(4) Lauric diethanolamide	10	15	25
(5) Lauric isopropanolamide (lauryl isopropanolamide)	10	15	25
(6) Lauric monoethanolamide	10	15	25
(7) Meprobamate (2-methyl-2-n-propyl-1,3-propanediol dicarbamate)	10	15	25
(8) Methocarbamol (3(-ortho-methoxyphenoxy)-1,2-propanediol-1-carbamate)	10	15	25
(9) N-1-Naphthylphthalamic acid	10	15	25
(10) Oleic diethanolamide	10	15	25
(11) Oleic monoethanolamide	10	15	25
(12) Sodium N-methyl-N-oleoyl taurate	10	15	25
(13) Stearyl diethanolamide	10	15	25
(14) Urea containing, in the dry state, more than 45 per cent by weight of nitrogen, whether or not coated or prilled	Free	Free	Free

Acetamide, para-acetamidosalol, acetanilide (203f, 875a, 921), acetylcarbromal, N-acetyl glucosamine, allantoin, allobarbitone, allyl-isopropyl-acetyl carbamide, allyl-isopropyl-barbituric acid, asparagine, barbitone, barbitone sodium, barbituric acid, bromodiethylacetylurea, bromoisovalerylurea, butabarbital sodium, buta-barbituric acid, butobarbitone, N-butyl-ethylbarbituric acid, calcium nembutal, carbachol, chlorbutynyl chlorocarbanilate (791), chlorodiallyl acetamide (791), chloromethylphenyl methylpentanamide (791),

chlorophenyl dimethylurea trichloroacetate (791), cyclobarbitone, cyclohexenylmethylmalonylurea, diethyldiphenylurea, dimethylacetamide (921), dimethylaminoxyl methyl carbamate (791), dimethyl carbamate, diuron (791), ethamivan, ethotoin, para-ethoxyphenylurea, ethylacetanilide (921), 2-ethyl crotonoyl urea, ethyl-N-methyl-phenylmalonylurea, ethylphenylmalonylurea, fenuron (791), formamide, halogenated carbanilides (219a, 791), halogenated salicylanilides (219a, 791), hexobarbitone, hydantoin (921), (N-hydroxyphenyl)trimethyl ammonium dimethyl carbamate, isopropamide iodide, isopropylchlorocarbanilate (791), methylacetanilide, methyl hydantoin, methyl naphthyl carbamate (791), monuron (791), naphthyl acetamide (791), nitrohydantoin, oxethazaine, pentobarbitone, pentobarbitone sodium, phenacetin, phenobarbital, phenobarbital sodium, phenyl dimethylurea-trichloroacetate (791), phenyl hydantoin, phenytoin, phosphamidon (791), propham (791), salicylamide, secobarbital sodium, sodium-N-lauroyl sarcosinate, and sodium-L-pantothenate, subject to the end-use items indicated in parentheses are now generally entered at rates of Free and 15 p.c. under tariff item 208t or 216 as chemicals of a kind not produced in Canada. Note on end-use items: 219a see Recommended Item 38.11, 791 see Recommended Item R-35. For these products the Board recommends rates of Free and 15 p.c.

Acetaminophen (para-acetamidophenol) is now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical ruled to be of a kind produced in Canada. The Board recommends rates of 10 p.c. and 15 p.c.

Eight chemicals were named by the Canadian Colour Makers Association as not being made in Canada but imported by its members to make pigment dyestuffs: acetoacetanilide, acetoacet-o-anisidide, acetoacet-o-chloranilide, acetoacet-o-toluidide, b-hydroxynaphthoic anilide, b-hydroxynaphthoic-p-chloranilide, b-hydroxynaphthoic-m-nitranilide and b-hydroxynaphthoic-o-toluidide. Imports are from West Germany and Britain. The Association's representations were largely concerned with end-use which is discussed elsewhere. The eight products, subject to end-use item 203f, are entered under tariff item 208t at rates of Free and 15 p.c. which the Board recommends be continued.

Acrylamide, with varied uses, is not produced in Canada. Imports in 1962 were valued at \$50,000. The Canadian Paint Varnish and Lacquer Association foresaw increased use of this product. Imports, subject to free entry under end-use item 921, are entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of Free and 15 p.c.

Dichlorodimethyl hydantoin is used by Javex Company as a major ingredient of a household bleach. It is entered under item 208t at rates of Free and 15 p.c. Javex proposed rates of 15 p.c. and 20 p.c. This matter is further considered in relation to potassium dichloroizocyanurate in Recommended Item 29.35. As for this latter product the Board recommends rates of Free and 15 p.c.

N,N-Diethyl-m-toluamide (DET) is produced in Canada and, subject to end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), entered under tariff item 711 at rates of 15 p.c. and 20 p.c. It is an insect repellent; exports to Commonwealth countries appeared to be developing. Imports were free of duty because of the end-use items. The Board recommends rates of 10 p.c. and 15 p.c.

Four products of this heading: lauric diethanolamide, lauric isopropanolamide and sodium N-methyl-N-oleoyl taurate, entered under tariff item 711 at rates of 15 p.c. and 20 p.c., and lauric monoethanolamide entered under tariff item 208t at rates of Free and 15 p.c., were the subject of representation by their Canadian producer, Hart Products Co. of Canada Ltd. Three further products: oleic diethanolamide, oleic monoethanolamide and stearyl diethanolamide, entered under item 208t at rates of Free and 15 p.c., were cited as competitive products not made in Canada at the time of the hearing. The company, and Canadian Aniline & Extract Co. proposed rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c. for all seven products.

Meprobamate, a tranquillizing agent, is produced in Canada. In the first six months of 1959 and 1960 imports were valued respectively at about \$13,000 and \$10,000. It is now dutiable at 15 p.c. and 20 p.c. under tariff item 711 as a chemical of a kind produced in Canada. The Board recommends rates of 10 p.c. and 15 p.c.

Methocarbamol is ruled to be a chemical of a kind produced in Canada and consequently entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

N-1-Naphthylphthalamic acid is produced sporadically in Canada to build up inventory; it is used as a herbicide; for this purpose it is entered free of duty under tariff item 219a (Recommended Item 38.11) or 791 (Recommended Item R-35) but otherwise, under tariff item 216 at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Urea containing, in the dry state, more than 45 per cent by weight of nitrogen would be classified in this Recommended Item. Urea containing, in the dry state, not more than 45 per cent by weight of nitrogen would be classified in Recommended Item 31.00. Urea is produced in Canada by six companies with a combined capacity of 380,000 tons annually. In 1959 there was no reported production of urea in Canada; in 1964 factory shipments were 180,000 tons with a value of about \$15 million, imports about 5,000 tons. In the same year, exports to the U.S.A. exceeded 124,000 tons and in addition there were very substantial exports to other countries. For its main use, as a fertilizer, urea generally contains, in the dry state, not more than 45 per cent by weight of nitrogen and is usually prilled, a process involving production in coated bead form. For use in animal feeds urea commonly contains less than 45 per cent nitrogen. Other important uses are in synthetic resins, medicine, adhesives and explosives. Though, in 1964, imports represented more than 10 per cent of Canadian consumption they represented less than 3 per cent of Canadian production because of the large exports. Urea for use as a fertilizer is now entered under tariff item 663 at rates of Free and 5 p.c., for use in the manufacture of fertilizers, under tariff item 663b free of duty and for general use, under tariff item 711 at rates of 15 p.c. and 20 p.c. One of the producers, Cyanamid of Canada, proposed continuation of the existing rates because of apprehension of pressure on the non-fertilizer market from Europe or the Far East at times of excess production. Two other producers, Consolidated Mining and Smelting Co. and Sherritt-Gordon Mines Ltd. proposed free entry for all grades and all uses and in support of this proposal Canada's competitive ability in the export market

for urea and fertilizers was cited; apprehension about retaliatory duties was also voiced. For the urea of this Recommended Item and that of Recommended Item 31.00 the Board is recommending free entry under all Tariffs.

Urethane is not produced in Canada; it is used in the production of meprobamate for which it is entered free of duty under tariff item 208y; otherwise it is entered under tariff item 208t at rates of Free and 15 p.c. Imports are largely from the U.S.A., Denmark, Germany and Britain. The Board recommends continued rates of Free and 15 p.c.

Recommended Item

B.P. M.F.N. G.T.

29.26 Imide-function compounds and
imine-function compounds:

(1) Other than the following	Free	15	25
(2) Guanidine nitrate	10	15	25
(3) Hexamethylenetetramine	10	15	25
(3A) Methenamine Mandelate	10	15	25
(4) Nitroguanidine	10	15	25
(5) Trimethylenetrinitramine	10	15	25

Adol-alpha-naphthylamine, aldol-beta-naphthylamine, arginine, l-arginine-l-glutamate, bemegride, N-bromosuccinimide, butylideneaniline, chlorhexidine, chlorhexidine diacetate, chlorhexidine digluconate, chlorhexidine dihydrochloride, 2,6-dichlorophenolindophenol, diorthotolylguanidine, diphenylguanidine, dodine, ethylideneaniline, ethylideneparatoluidine, glutethimide, guanidine, N-octylbicycloheptene dicarboxinamil, phthalimide, proguanil hydrochloride, saccharin, saccharin calcium, sodium saccharinate, succinimide, thalidomide and orthotolyldiguanide, subject to the end-use provisions of tariff item 791 (Recommended Item R-35) for dodine and N-octylbicycloheptene dicarboxinamil, are entered at rates of Free and 15 p.c. under tariff item 208t or 216 as chemicals or acids of a kind not produced in Canada. The Board recommends continued rates of Free and 15 p.c.

Guanidine nitrate is produced in Canada by Cyanamid of Canada Ltd.; productive capacity was said to be adequate to meet foreseeable Canadian requirements. It is used in the production of chlorinated bactericides, pesticides, sulpha drugs and pharmaceuticals. It is now imported, subject to end-use items 219a (Recommended Item 38.11), 664a and 791 (Recommended Item R-35), under tariff item 208t at rates of Free and 15 p.c. The producer proposed rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Hexamethylenetetramine is now ruled made in Canada and entered under tariff item 711 at rates of 15 p.c. and 20 p.c. For it, the Board recommends rates of 10 p.c. and 15 p.c.

Methenamine mandelate, ruled to be made in Canada, is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

Nitroguanidine and trimethylenetrinitramine are now entered as explosives under tariff item 666 at rates of $1\frac{3}{4}$ cents and $2\frac{1}{4}$ cents per pound. They were not the subject of representations before the Board. In line with its other recommendations for explosive the Board recommends rates of 10 p.c. and 15 p.c.

Recommended ItemB.P. M.F.N. G.T.

29.27 Nitrile-function compounds:

(1) Other than the following	Free	15	25
(2) Acetonitrile	10	15	25
(3) Acrylonitrile	10	15	25
(4) Adiponitrile	10	15	25
(5) Dicyandiamide	10	15	25

Acetone cyanohydrin (791: Recommended Item R-35), amino-phenylacetonitrile, benzonitrile (203f, 921), cyanoacetamide, cyanopinacoline, hydroxyphenylacetonitrile, iminodiacetonitrile, lactonitrile, naphthonitrile, nitrobenzonitrile, nitrophenylacetonitrile, phenylcyanamide and tricyanotrimethylamine are, subject in some cases to end-use items included in parentheses, entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. The Board recommends rates of Free and 15 p.c.

Acetonitrile, used in the manufacture of synthetic rubber, is now ruled made in Canada and was included in a general proposal by Polymer Corporation. Imports in 1964 were one million pounds valued at \$303,000. Subject to duty-free entry under tariff item 851 (which would remain unchanged) it is dutiable at rates of 15 p.c. and 20 p.c. under tariff item 711. The Board recommends rates of 10 p.c. and 15 p.c.

Acrylonitrile is a chemical the production of which started late in 1965 by Imperial Oil in a new plant at Sarnia. At the time of the hearing in 1962 it was not produced in Canada - indeed the likelihood of its domestic production was then considered remote by one consumer. It is used by Du Pont in the production of orlon, by Polymer in the production of nitrile rubber and by Polymer and Dow to make acrylonitrile-butadiene-styrene resin. All imports were from the United States. The domestic market appears to be about 15 million pounds with immediate prospects for growth beyond 25 million pounds. Acrylonitrile can be hydrodimerized to adiponitrile, an intermediate in nylon production. Subject to end-use provisions of tariff items 219e (Recommended Item 38.11) and 851 which would remain unchanged, it is subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. Only the Du Pont company made representations at the hearing and it proposed free entry until there was Canadian production. Though the company made no proposal concerning the rates when Canadian production began it had proposed rates of 25 p.c. and 30 p.c. for the nylon intermediates it made. The Board recommends rates of 10 p.c. and 15 p.c.

Adiponitrile is produced in Canada by Du Pont for its manufacture of nylon 66 salt; at the time of the hearing it was dutiable under tariff item 208t at rates of Free and 15 p.c. It is now dutiable under tariff item 711 at 15 p.c. and 20 p.c. as a chemical of a kind ruled to be made in Canada. Adiponitrile does not appear to enter into Canadian trade. Du Pont expressed concern about possible imports by competitors in nylon production with consequent reduction in the demand for Canadian productive facilities; it also appeared that the competition between other fibres and nylon had more influence on prices than the tariff on the intermediates. Du Pont proposed rates of 25 p.c. and 30 p.c. For the reasons given in Recommended Item 29.22 dealing with nylon intermediates, the Board recommends rates of 10 p.c. and 15 p.c.

Dicyandiamide is made by Cyanamid of Canada Ltd., the only producer in North America; its largest use is in the production of melamine; imports were said to be made because some users find the foreign material more suitable to their needs; imports are from Norway or Japan; substantial exports are made to the United States and Britain. Subject to end-use items 791 (Recommended Item R-35), 863 and 921, dicyandiamide is entered under tariff item 208t at rates of Free and 15 p.c.; the producer proposed rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.28 Diazo-, azo- and azoxy-compounds	Free	15	25

P-aminoazobenzene, aminoazobenzenesulphonic acid, aminoazonaphthalene, azobenzene, azoisobutyronitrile, azonaphthalene, azotoluene, p-Azoxyanisole, azoxybenzene, azoxybenzoic acid, azoxycinnamic acid, p-azoxyphenetole, azoxytoluene, azoxytoluidine, diazoaminobenzene, para-diazobenzenesulphonic acid, diazosalicylic acid, dimethylaminoazobenzene, methyldiazoaminobenzene, phenyldiazonium chloride and phenyldiazonium hydroxide are entered at rates of Free and 15 p.c. under tariff item 208t or 216 as chemicals or acids of a kind not produced in Canada; they are also subject to free entry under the end-use provisions of tariff item 203f. Diazodinitrophenol is entered under tariff item 666 at $1\frac{3}{4}$ cents and $2\frac{1}{4}$ cents per pound.

No data were presented to the Board and the only proposal was that of the Canadian Pharmaceutical Manufacturers Association for continued rates of Free and 15 p.c. on dimethylaminoazobenzene.

For all the products of this Recommended Item the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.29 Organic derivatives of hydrazine or of hydroxylamine	Free	15	25

Acetaldehyde phenylhydrazone, acetaldoxime, acetophenoxime, acetoxime, benzaldehyde semicarbazone, benzaldoxime, benzylideneacetoxime, benzylphenylhydrazine, 1-benzyl-2-trimethyl acetyl hydrazine, bromophenylhydrazine, butyraldoxime, cyanoacetic hydrazide, cyclohexanone oxime, dimethylglyoxime, diphenylcarbazide, ethyl methyl ketoxime, hydrazides of carboxylic acids, hydrazinium: quaternary salts and bases, hydroxamic acids, methylphenylhydrazine, naphthylhydrazine, nitroso-phenylhydroxylamine, phenylglucosazone, phenylglyoxime, phenylhydrazine, phenylhydroxylamine, phenylsemicarbazide, semicarbazide and tolyhydrazine are now entered under tariff item 208t or 216 as chemicals or acids of a kind not produced in Canada at rates of Free and 15 p.c.

Acetoxime and cyclohexanone oxime are subject to the end-use provisions of tariff item 921, phenylhydrazine to those of tariff item 203f and the quaternary salts of hydrazinium to those of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35).

Butyraldoxime, methyl ethyl ketoxime (ethyl methyl ketoxime) and cyclohexanone oxime were the only three products upon which representations were made; they are used in the production of paints and varnishes to prevent the formation of a surface skin in the containers. Nuodex Products of Canada, a distributor of American production of these three products, and the Canadian Paint, Varnish & Lacquer Association, an association of users, both proposed free entry for the three products; they urged that all three were available in the United States while only methyl ethyl ketoxime was available in Britain. Imports of the latter were valued at \$130,000 in 1963.

For all the products of this Recommended Item the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.30 Compounds with other nitrogen-functions:			
(1) Other than the following	Free	15	25
(2) Toluene-di-isocyanates	10	15	25

The azides of carboxylic acids and the isocyanides (carbylamines) of this Recommended Item were not the subject of representations before the Board. They are now entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. The Board recommends continued rates of Free and 15 p.c.

Diphenylmethane di-isocyanate, not produced in Canada, and toluene-2,4-di-isocyanate, produced in Canada, may each be used in the manufacture of urethane foams and in adhesives and surface coatings. At the time of the hearing, early in 1962, both products were entered under tariff item 208t at rates of Free and 15 p.c., subject to free entry under the end-use provisions of tariff item 921; since then Allied Chemical Canada Ltd. has begun Canadian production of toluene-2,4-di-isocyanate and it is now, if 80 per cent distillable, subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. I.C.I. of Britain sought continuation of rates of Free and 15 p.c. for both, at least until Canadian production commenced; Allied Chemical made the same proposal adding that, upon its commencement of production of toluene-2,4-di-isocyanate, the rates for it become 15 p.c. and 20 p.c. The Rubber Association of Canada proposed rates "somewhat lower" than the rates of 15 p.c. and 20 p.c. applicable to polyurethane foam under tariff item 907. The Board recommends for diphenylmethane di-isocyanate rates of free and 15 p.c. and for toluene-di-isocyanates rates of 10 p.c. and 15 p.c. without qualification as to the percentage distillable.

Sodium cyclamate was mentioned by the Canadian Pharmaceutical Manufacturers Association; it proposed continuation of the rates of Free and 15 p.c. now applicable under tariff item 208t; the product is also subject to free entry under the end-use provisions of tariff item 921. The Board recommends continued rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.31 Organo-sulphur compounds:			
(1) Other than the following	Free	15	25
(2) Diamylammonium diamyl dithiocarbamate	10	15	25
(3) Disodium ethylene bisdithiocarbamate	10	15	25
(4) Manganese ethylene bisdithiocarbamate	10	15	25
(5) Potassium amyl xanthate	10	15	25
(6) Potassium ethyl xanthate	10	15	25
(7) Potassium isopropyl xanthate	10	15	25
(8) Selenium diethyl dithiocarbamate	10	15	25
(9) Sodium sec-butyl xanthate	10	15	25
(10) Sodium diethyl dithiocarbamate	10	15	25
(11) Sodium dimethyl dithiocarbamate	10	15	25
(12) Sodium isopropyl xanthate	10	15	25
(13) Tetramethylthiuram disulphide	10	15	25
(14) Tetramethylthiuram monosulphide	10	15	25
(15) Zinc dibutyl dithiocarbamate	10	15	25
(16) Zinc diethyl dithiocarbamate	10	15	25
(17) Zinc dimethyl dithiocarbamate	10	15	25
(18) Zinc ethylene bisdithiocarbamate	10	15	25

Ammonium diethyl dithiocarbamate, ammonium thioglycollate, amyl mercaptan, amyl thioglycollate, amyl xanthate (208u), benzyl xanthate (208u), 2-butoxy-2'-thiocyanodiethylether (219a, 791), n-butyl mercaptan, n-butyl thioglycollate, butyl xanthate (208u), cadmium diamyl dithiocarbamate, calcium thioglycollate, capryl thioglycollate, captan (219a, 791), chloroallyldiethyldithiocarbamate (219a, 791), cupric dimethyl dithiocarbamate, cyclohexyl thioglycollate, demeton (219a, 791), dibenzoyl disulphide, dibutyl ammonium dibutyl dithiocarbamate, dibutyl dithiodiglycollate, N,N'-dibutyl thiourea, 1,4-di(carboxymethylthio)butane, 2,2-di(carboxymethylthio)diethyl ether, 1,2-di(carboxymethylthio)ethane, 1,1-di(carboxymethylthio)methane, dichloroallyl di-isorpopylthiocarbamate (219a, 791), di-n-dodecyl-3,3'-thiopropionate, diethyl-p-chlorophenylthiomethyl dithiophosphate (219a, 791), diethyl ethylthioethyldithiophosphate (demeton) (219a, 791), N,N'-diethyl thiourea, dihydroxydiphenyl sulphone (Ex. 216), diisopropyl xanthogen disulphide, dimethylammonium dimethyldithiocarbamate, dimethyl sulphide, diorthotolylthiourea, diphenyl sulphide, diphenyl thiourea (thiocarbanilide), dithiodiglycollic acid, dithioglycollic acid, n-dodecyl mercaptan (851), tert-dodecyl mercaptan (851), ethion (219a, 791), ethylene glycol bis-thioglycollate, 2-ethylhexyl thioglycollate (octyl thioglycollate), ethyl mercaptan, ethyl

thioglycollate, ferbam (ferric dimethyl dithiocarbamate) (219a, 791), isobornyl thiocyanatoacetate (219a, 791), iso-octyl thioglycollate, isopropyl thioglycollate, lauryl mercaptoacetic acid, lauryl thioglycollate, lead dimethyl dithiocarbamate, malathion (219a, 791), ortho-mercaptobenzoic acid, methionine, methyl mercaptan, methyl thioglycollate, methyl xanthate (208u), monoethanolamine thioglycollate, nickel dibutyl dithiocarbamate, nickel dimethyl dithiocarbamate, octyl thioglycollate, potassium dimethyl dithiocarbamate, potassium thioglycollate, sodium diamyl dithiocarbamate (851), sodium di-butyl dithiocarbamate (219a, 791), sodium ethylxanthate (208u), sodium N-methyl dithiocarbamate (219a, 791), sodium thiobenzoate, sodium thioglycollate, stearyl thioglycollate, tetrabenzyl thiuram disulphide, tetrabutyl thiuram disulphide, tetrachlorodiphenylsulphone (219a, 791), thioaniline, thiobenzoic acid, thiocarbanilide, thiodiglycol, 3,3'-thiodipropionic acid, thioglycolic acid, thiophenol, thiourea, thiuram disulphide, thiuram monosulphide, trichloroallyldiisopropylthiolcarbamate (219a, 791), trichloromethylthiophthalimide (219a, 791) zinc diamyl dithiocarbamate, zinc dibenzyl dithiocarbamate, zinc dibutyl dithiocarbamate dibutylamine complex, zinc dimethyl dithiocarbamate cyclohexylamine complex, zinc isopropyl xanthate (208u) and zinc thiobenzoate, subject to the end-use items indicated in parentheses, are now entered at rates of Free and 15 p.c. under tariff item 208t or 216 as chemicals or acids of a kind not produced in Canada. Note on end-use items: 219a see Recommended Item 38.11, 791 see Recommended Item R-35, 851 would remain unchanged. For all these products the Board recommends rates of Free and 15 p.c.

Ten dithiocarbamates: diamylammonium diamyl dithiocarbamate, disodium ethylene bisdithiocarbamate (219a, 791), manganese ethylene bisdithiocarbamate (219a, 791) and zinc ethylene bisdithiocarbamate (219a, 791) now entered for general use under tariff item 208t at rates of Free and 15 p.c. subject to the end-use provisions indicated in parentheses and selenium diethyl dithiocarbamate, sodium diethyl dithiocarbamate, sodium dimethyl dithiocarbamate (851), zinc dibutyl dithiocarbamate, zinc diethyl dithiocarbamate, zinc dimethyl dithiocarbamate (219a, 791), now entered for general use under tariff item 711 at rates of 15 p.c. and 20 p.c. subject to the end-use items indicated in parentheses, were all the subject of representations before the Board. Note on end-use items: 219a see Recommended Item 38.11, 791 see Recommended Item R-35, 851 would remain unchanged. Though some have not been ruled to be chemicals of a kind produced in Canada, they are all manufactured in Canada. For all of them the Board recommends rates of 10 p.c. and 15 p.c.

Tetraethylthiuram disulphide was formerly produced in Canada and is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. Because of decreased sales, production was discontinued. The Board recommends rates of Free and 15 p.c.

Two tetramethylthiurams: tetramethylthiuram disulphide and tetramethylthiuram monosulphide are produced in Canada by Naugatuck Chemicals and, subject to end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), are entered under tariff item 711 at rates of 15 p.c. and 20 p.c. For both products the Board recommends rates of 10 p.c. and 15 p.c.

Three xanthates: potassium amyl xanthate, sodium sec-butyl xanthate and sodium isopropyl xanthate are made in Canada by Canadian Chemical Co. Ltd. There are three other producers of xanthates in Canada: Cyanamid of Canada Ltd., Courtauld's (Canada) Ltd. and Du Pont of Canada Ltd. though the latter two appear to make sodium cellulose xanthate only which they use in the production of regenerated cellulose. The only commercial use of xanthates in Canada is as collectors in the flotation of metallic sulphide ores. The producers of lead, zinc, nickel, copper and gold are the major users. In 1962 the market for xanthates was estimated at about 5 million pounds and imports at about 2.5 million pounds. Imports in 1963 were about 3.7 million pounds valued at \$1.2 million and, in 1964, nearly 4.5 million pounds valued at about \$1.2 million. For the only commercial use, ore concentration, all xanthates are entered free of duty under tariff item 208u; otherwise, with the exception of potassium amyl xanthate, potassium ethylxanthate, potassium isopropyl xanthate and sodium isopropyl xanthate subject to entry under tariff 711 at rates of 15 p.c. and 20 p.c., they would be entered under tariff item 208t at rates of Free and 15 p.c. For potassium amyl xanthate, potassium ethylxanthate, potassium isopropyl xanthate, sodium sec-butyl xanthate and sodium isopropyl xanthate the Board recommends rates of 10 p.c. and 15 p.c. and for the other xanthates of this Recommended Item rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.32 Organo-arsenic compounds	Free	15	25

Acetarsol, amino-hydroxyphenylarsonic acids, arsanilic acid, arspenamine, cacodylic acid, disodium methyl arsonate (subject to end-use items 219a - Recommended Item 38.11 and 791 - Recommended Item R-35), methyl arsonic acid, neoarsphenamine, sodium arsanilate and sulpharsphenamine are now entered under tariff items 208t or 216 at rates of Free and 15 p.c. as chemicals or acids of a kind not produced in Canada. The Board recommends continued rates of Free and 15 p.c.

3-Nitro-4-hydroxyphenylarsonic acid was mentioned by the Industry Committee as having possible commercial significance in making animal feeds; for this end-use it is entered free of duty under tariff item *219h which would remain unchanged; otherwise it is entered under tariff item 216 at rates of Free and 15 p.c. Imports of this product in 1963 amounted to \$470,000. For uniformity and to preserve the preferential margin in other possible uses, present or future, the Board recommends rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.33 Organo-mercury compounds	Free	15	25

Diethyl mercury, diphenyl mercury and mersalyl acid are now entered under tariff item 208t or 216 as chemicals or acids of a kind not produced in Canada at rates of Free and 15 p.c. which the Board recommends.

Di(phenyl mercuric)dodecenyl succinate, ethyl mercury chloride, ethyl mercury nitrile, methyl mercury nitrile, phenyl mercuric acetate, phenyl mercuric chloride, phenyl mercuric formamide, phenyl mercuric nitrate, phenyl mercuric oleate, phenyl mercury triethanol ammonium lactate and thiomersal, all subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), are entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends continued rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.34 Other organo-inorganic compounds:			
(1) Other than the following	Free	15	25
(2) Diethyl aluminum chloride	10	15	25
(3) Ethyl aluminum sesquichloride	10	15	25
(4) Triethyl aluminum	10	15	25
(5) Tri-isobutyl aluminum	10	15	25

A group of monomeric silanes and of cyclic siloxanes were the subject of joint representations before the Board by three companies. The monomeric silanes include aminoethyl-3-trimethoxysilylpropylimine, 3-aminopropyltriethoxysilane, amyltrichlorosilane, amyltriethoxysilane, b-cyanoethylmethyldiethoxysilane, b-cyanoethyltriethoxysilane, dimethyldichlorosilane, dimethyldiethoxysilane, diphenyldichlorosilane, diphenyldiethoxysilane, diphenylsilanediol, 3,4-epoxycyclohexylethyl-trimethoxysilane, ethyltrichlorosilane, glycidoxypropyltrimethoxysilane, methyldichlorosilane, methylphenyldichlorosilane, methyltrichlorosilane, methyltriethoxysilane, methyltri(2-methoxyethoxy)silane, methylvinyl-dichlorosilane, phenyltrichlorosilane, sodium methylsilanolate, trimethylchlorosilane, vinyltrichlorosilane, vinyltriethoxysilane, vinyltri(2-methoxyethoxy)silane and vinyltrimethoxysilane. The cyclic siloxanes include decamethylcyclopentasiloxane, hexamethylcyclo-trisiloxane, octamethylcyclotetrasiloxane, octaphenylcyclotetrasiloxane and tetramethyltetraphenylcyclotetrasiloxane. These products were proposed for duty-free entry, until made in Canada, by Canadian General Electric, Dow Corning Silicones and Union Carbide; their interest lay in the direct use of these products and their possible eventual use as intermediates for the manufacture of silicones which were not yet produced in Canada; the products, subject to the end-use provisions of tariff items 851 (which would remain unchanged) and 921, are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. No data are available on imports. The free entry proposal was based on the principle of free entry for primary raw materials until produced in Canada. The Board recommends for these products rates of Free and 15 p.c.

Not included in the list submitted by the three companies were aminotrichlorosilane, aminotriethoxysilane, dodecamethylcyclo-hexasiloxane, hexamethyldisiloxane, octamethyltrisiloxane, triethyl-silanol and triphenylsilanol. For these also the Board recommends rates of Free and 15 p.c.

Dibutyltin dilaurate (921), iron carbonyl (220e), nickel carbonyl, tetrakis(hydroxymethyl)phosphonium chloride and trichlorofon (219a, 791), subject to the end-use items indicated in parentheses are entered under tariff item 208t at rates of Free and 15 p.c. Note on end-use items: 219a see Recommended Item 38.11, 791 see Recommended Item R-35. For these products the Board recommends rates of Free and 15 p.c.

Ethylstannic acid and silicobenzoic acid are entered under tariff item 216 at rates of Free and 15 p.c. The Board recommends that these rates be continued.

Tetraethyl lead and tetramethyl lead are both subject to entry at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. They are used with other chemicals to form anti-knock preparations; the products themselves do not appear to enter commerce as single chemically defined products and no proposals were made concerning them. The Board recommends continued rates of Free and 15 p.c.

Four products of this heading were ruled recently as made in Canada. They are: diethyl aluminum chloride, ethyl aluminum sesquichloride, triethyl aluminum and tri-isobutyl aluminum now dutiable at rates of 15 p.c. and 20 p.c. under tariff item 711. There were no representations concerning them. The Board recommends that they be dutiable at rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.35 Heterocyclic compounds; nucleic acids:			
(1) Other than the following	Free	15	25
(2) Adrenochrome semicarbazone	10	15	25
(3) Benzothiazyl disulphide			
(dibenzothiazolyl disulphide)	10	15	25
(4) Caprolactam	5	5	15
(5) Chlorpromazine hydrochloride	10	15	25
(6) N-Cyclohexyl-2-benzothiazole			
sulphenamide	10	15	25
(7) Dinitrosopentamethylene tetramine			
(3,7-dinitroso-1,3,5,7-tetra-			
azabicyclo(3,3,1)nonane)	10	15	25
(8) 2,5-Diphenyloxazole (PPO)	10	15	25
(9) Diphenylpyraline hydrochloride	10	15	25
(10) Essential oils, natural or			
synthetic, of this item	Free	7½	7½
(11) 6-Ethoxy-1,2-dihydro-2,2,4-			
trimethylquinoline	10	15	25
(12) Furazolidone	10	15	25
(13) Maleic hydrazide	10	15	25
(14) Melamine	10	15	25
(15) 2-Mercaptobenzothiazole	10	15	25
(16) Phenylazo-diamino-pyridine			
hydrochloride	10	15	25

29.35

(Cont'd)	(17) Phenylbiphenyloxadiazole (PBD; 2-phenyl-5-(4-biphenyl)- 1,3,4-oxadiazole)	10	15	25
	(18) 1,4-bis-2-(5-phenyloxazolyl)- benzene (POPOP)	10	15	25
	(19) Piperazine phosphate	10	15	25
	(20) Promazine hydrochloride	10	15	25
	(21) Warfarin	10	15	25
	(22) Zinc mercaptobenzothiazole	10	15	25

A number of products in this Recommended Item are now entered under tariff item 208t or 216 at rates of Free and 15 p.c. as chemicals or acids of a kind not produced in Canada; they include acepromazine maleate, acridine, acriflavine, N-acetylcyclolaminomethylpyridinium chloride, adenine riboside; 6-allyl-6,7-dihydro-5H-dibenz(c,e)azepine; aminacrine hydrochloride, 6-aminopenicillanic acid, aminopyrine, 2-aminothiazole, 2-aminothiazoline, antipyrine, benziminazole, benzopyran, benzothiazole, benzoxazole, 1-benzyl-2-(5-methyl-3-isoaxolyl carbonyl hydrazine), butopyronoxyl (219a, 791), bis-butylene tetrahydrofurfural (219a, 791), butyrolactone, cadmium pentamethylene dithiocarbamate, carbazole (791), carbinoxamine maleate, chlorcyclizine hydrochloride, chlordiazepoxide hydrochloride (219a, 791), chlorbis (ethylamino)triazine (219a, 791), 2-p-chlorobenzylpyridine, 2-chloro-9-(3-dimethyl-amino propylidene)thioxanthene, 2-chloro-4-ethylamino-6-isopropylamino-s-triazine (219a, 791), 7-chloro-4-hydroxyquinoline, chlorpheniramine maleate, chlorprothixene, coumarin, coumarone (921), cupric pentamethylene dithiocarbamate, cyclizine hydrochloride, dehydracetic acid, dehydrothioparatoluidine (203f), dextrochlorpheniramine dextro-2-P-chloro-(2-dimethyl-aminoethyl) benzyl pyridine maleate, dextromethorphan hydrobromide; 3,3-di(para-acetoxyphenyl)oxindole, 2,5-diamino-7-ethoxyacridine lactate; "diazinon" (219a, 791); d-3,4 (1',3'-dibenzyl-2'-ketoimidazolidine)-1,2-trimethylene thiopanium d-camphor sulphonate; dichloro chloroanilinetriazine (791), dicoumarol, diethylchloromethylcoumarinyl thiophosphate (219a, 791); 3,3-diethyl-1,2,4-dioxopiperidine; N,N'-difurfuryl thiourea; dihydroxycoumarins (aesculetin and daphnetin); 2,3-dihydroxyquinoxaline; di-iodohydroxyquin, dimethisoquin, dimethoxanate hydrochloride; 4-dimethylamine-1,5-dimethyl-2-phenyl-3-pyrazalone; 2-dimethyl-amino-6-(b-dimethylamino-ethoxy) benzothiazole dihydrochloride; 4-dimethylamino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one; dimethyldiaminotriazinylmethyl dithiophosphate (219a, 791); 1,1'-dimethyl-4,4'-dipyridylum dichloride (219a, 791); dimethyl oxobenzotriazinomethyl dithiophosphate (791, 921); 2,5-dimethylpiperazine; dl-a-1,3-dimethyl-4-propionoxypiperidine hydrochloride; 6,6'-dimethyl-2,2'-pyridoin; dimethyl tetrahydrothiadiazine-thione (219a, 791), dipentamethylene thiuram disulphide, dipentamethylene thiuram monosulphide, dipentamethylene thiuram tetrasulphide, dipipanone hydrochloride, dipropyl isocinchomeronate (219a, 791), erythorbic acid, ethionamide, ethoheptazine, ethoheptazine citrate; 1,1'-ethylene-2,2'-dipyridylum dichloride (219a, 791); ethylene thiourea (219a, 791, 921), ethylene bis thiuram monosulphide, N-ethyl morpholine (203f), N-ethyl piperidine (875a); N-ethyl-1,2,5,6-tetrahydropyridine; 5-fluorouracil, furfural (263b, 791, 921), furfuryl alcohol (921), furfurylamine, glucono-d-lactone, glucuronolactone, glyodin (219a, 791), hexocyclium, histamine, histamine dihydrochloride,

histamine diphosphate, 1-histidine monohydrochloride, hydralazine hydrochloride, hydromercuridibromofluorescein, 7-hydroxycoumarin; 8-hydroxy-5,7-di-iodoquinoline; N-2hydroxyethylpiperazine, N-2-hydroxyethylpiperidine, hydroxymethyl dibromomethyl pyridine, 3-hydroxy-1-methylpyridinium bromide; 3-, 4-, 5-, 6- and 7-hydroxyquinolines (791); 8-hydroxyquinoline (791), hydroxyzine, indazole, indole, meso-inositol hexanicotinate, iodochlorhydroxyquin, iodophenolphthalein, ipronazide, isatin, isobutylquinoline, isoniazid, isonicotinic acid, isonicotinylhydrazine, 1-isonicotinyl-2-isopropyl hydrazine, isopropylquinoline (203f), isoquinoline (203f, 791), isothipendyl hydrochloride, lead pentamethylene dithiocarbamate, levallorphan tartrate, levorphanol tartrate, lysidine, meclizine hydrochloride, meperidine hydrochloride, mercaptobenziminazole, 2-mercapto-benzothiazole sulphenamide, methapyrilene, methapyrilene fumarate, methaqualone hydrochloride, 1-methyl-4-(3-chloropropyl)-piperazine, methylcoumarin, methylene dipiperidine, N-methyl furfurylamine, methyl isonicotinate, methyl mercury oxinate (219a, 791), N-methyl morpholine (921), methyl nicotinate, 1-methyl-4-phenylpiperidinecarboxylic acid, 2-methyl-9-phenyltetrahydro-1-pyridindene hydrogen tartrate, 1-methylpiperazine, 2-methylpiperidine, 4-methylpiperidine, N-methylpiperidine, methylquinoline, N-methyl tetrahydrofurfurylamine; N-methyl-1,2,5,6-tetrahydropyridine; 6-methyl-2-thiouracil, methypylon, naphazoline hydrochloride, naphazoline nitrate, nialamide, nickel pentamethylene dithiocarbamate, nicotinmethylanide, nikethamide (203f), N-nitrosopiperidine, nucleic acids; 2-oxo-3-isobutyl-9,10-dimethoxy-1,3,4,6,7,11,b-hexahydro-2H-benzo(a)quinolizine; oxyphencyclimine hydrochloride, pantothenolactone, paramethadione, perphenazine, pethidine, phenazine, pheniramine, phenolphthalein, phenothiazine (203f, 791), phenoxazine, phentolamine hydrochloride, phenylbutazone, 1-phenyl-3-carbethoxy-5-pyrazolone (203f); 1-phenyl-2,3-dimethyl-4-isopropyl-5-pyrazolone; 1-phenyl-3-methyl-5-pyrazolone (203f), phenylquinolinecarboxylic acid, piperazine, piperazine adipate, piperazine dihydrochloride (*219h), piperazine hexahydrate, piperidine, piperidinium pentamethylene dithiocarbamate, 2-piperidinoethanol, piperocaine hydrochloride, pramoxine hydrochloride, primidone, proflavine sulphate, promethazine, promethazine hydrochloride, propionolactone, propylthiouracil, pyrazinamide, pyridine (863); pyridine-2,6-dialdehyde; pyridine hydroxypropylamide, b-pyridylcarbinol tartrate, quercetin, quinazoline, quinoline, rotenone (219a, 791), santonin, skatole, sodium, dimethyl pentamethylene dithiocarbamate, sodium pentamethylene dithiocarbamate, tetrabenazine, tetrahydrofuran (921), tetrahydrofurfuryl alcohol, tetrahydrofurfurylamine, tetrahydrofurfuryl nicotinate, tetrahydromethylquinoline; 1,2,5,6-tetrahydropyridine; 1,2,3,4-tetrahydroquinoline; tetrahydrothiophene, tetrahydrozoline hydrochloride, thiodan (219a, 791), thionaphthen, thiophen, thioridazine hydrochloride, thiouracil; 1,4-thioxane; thonzylamine hydrochloride, thymolphthalein, tolazoline hydrochloride, tricylamol chloride, triethylene diamine (921), trifluoperazine dihydrochloride, 2-trifluoromethyl phenothiazine, trifluoropiperazine dihydrochloride, trimetaphan-4-camphorsulphonates, trimethadione, trimethidinium methosulphate, tripelennamine citrate, tripelennamine hydrochloride, triprolidine hydrochloride, troxidone, vinylpyridine (851, 921), 1-vinyl-2-pyrrolidone (921), xanthen (791, 921), zinc dimethyl pentamethylene dithiocarbamate, zinc pentamethylene dithiocarbamate and zinc pentamethylene dithiocarbamate-piperidine complex; they are also subject to the end-use items indicated in parentheses. Note on end-use items: 263b see Recommended Item R-18, 219a see Recommended Item 38.11, *219h would remain unchanged, 791 see Recommended Item R-35. For all these products the Board recommends rates of Free and 15 p.c.

Adrenochrome semicarbazone is produced in Canada; because it has not been ruled to be made in Canada it is now entered under tariff item 208t at rates of Free and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

N-cyclohexyl-2-benzothiazole sulphenamide, a group of three thiazoles (benzothiazyl disulphide, mercaptobenzothiazole, zinc mercaptobenzothiazole) and a group of four sulphenamides (N-tert-butyl-2-benzothiazolesulphenamide; N,N-dicyclohexyl-2-benzothiazolesulphenamide; N,N-di-isopropyl-2-benzothiazolesulphenamide and N-oxydiethylene-2-benzothiazolesulphenamide) were the subject of representations by Monsanto Canada Ltd. N-cyclohexyl-2-benzothiazole sulphenamide is produced in Canada by both Naugatuck Chemical and Monsanto; it is used as an accelerator in making products from natural or synthetic rubber. It is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. which the producers sought to have continued. The three thiazoles, used as accelerators in conditioning natural and synthetic rubbers, are produced in Canada by Naugatuck and entered under tariff item 711 at rates of 15 p.c. and 20 p.c. which the company sought to have continued. The four sulphenamides, for N,N-di-isopropyl-2-benzothiazolesulphenamide subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), are now entered under tariff item 208t at rates of Free and 15 p.c. as chemicals of a kind not produced in Canada. For them Monsanto also proposed rates of 15 p.c. and 20 p.c. on the grounds that they were competitive with N-cyclohexyl-2-benzothiazole sulphenamide and the three thiazoles in their uses as rubber accelerator. The Rubber Association of Canada opposed these proposals on the grounds that they would hamper research and experimentation; it also represented that N-tert-butyl-2-benzothiazole sulphenamide differs in its function from the other thiazoles and sulphenamides. For benzothiazyl disulphide, N-cyclohexyl-2-benzothiazole-sulphenamide, mercaptobenzothiazole and zinc mercaptobenzothiazole the Board recommends rates of 10 p.c. and 15 p.c. and for N-tert-butyl-2-benzothiazolesulphenamide, N,N-dicyclohexyl-2-benzothiazolesulphenamide, N,N-di-isopropyl-2-benzothiazolesulphenamide and N-oxydiethylene-2-benzothiazolesulphenamide the Board recommends rates of Free and 15 p.c.

Caprolactam, formerly in Brussels Heading 29.37, is now classified in heading 29.35. It is used as an intermediate in the production of nylon 6; it is an important article of international trade. Though it is not made in Canada, the nylon 6 made from it is so similar to nylon 66 made from hexamethylene diammonium adipate that the two salts can be considered competitive. In Recommended Item 29.22 the Board discussed generally the question of nylon intermediates. Subject to the end-use provision in tariff item 923 for free entry for use in the manufacture of synthetic resins, caprolactam is entered under tariff item 208t at rates of Free and 15 p.c. Courtauld's Canada Synthetic Fibres Ltd. makes nylon 6 fibre from polycaprolactam imported from Europe and Union Carbide Canada Ltd., in the production of nylon 6, intends to use imported caprolactam. Du Pont of Canada was apprehensive about the competitive threat of caprolactam to its production of nylon 66 salt and proposed rates of 25 p.c. and 30 p.c. for it. B.F. Goodrich Canada Limited sought rates not exceeding those applicable to nylon filament under tariff item 561c, Courtauld's, free entry until there is Canadian production and then "rates reasonable in relation to those of the fibres and yarns made from it" and Union Carbide, rates

of 5 p.c. under both Tariffs. Caprolactam imports are now largely free of duty under both tariffs because they are used in the manufacture of synthetic resins and thus qualify for the end-use provisions of 923. To conform with its recommendations for polyamide resins in Recommended Item 39.01, the Board recommends for caprolactam rates of 5 p.c. and 5 p.c.

Chlorpromazine hydrochloride and promazine hydrochloride, both produced in Canada, are now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. For them the Board recommends rates of 10 p.c. and 15 p.c.

Dinitrosopentamethylene tetramine is made in Canada by C.I.L.; it is used in curing rubber and priced at \$180 per 100 pounds, about the same as the U.S. price. It is now subject to entry at rates of Free and 15 p.c. under tariff item 208t. The Board recommends rates of 10 p.c. and 15 p.c.

Diphenyloxazole and diphenylpyraline hydrochloride are both entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind produced in Canada. The Board recommends rates of 10 p.c. and 15 p.c.

The essential oils of this heading include ambrettolide, nonolactone and undecolactone. They are now entered under tariff item *264a which is not within the scope of this Reference at rates of Free and $7\frac{1}{2}$ p.c., the continuation of which the Board recommends.

6-Dodecyl-1,2-dihydro-2,2,4-trimethylquinoline and 6-ethoxy-1,2-dihydro-2,2,4-trimethylquinoline were the subject of conflicting representations. Both are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. Monsanto Canada Ltd. produces the ethoxy product; its largest use is in the production of rubber products where Monsanto represented that it met competition from the dodecyl product; the company sought rates of 15 p.c. and 20 p.c. for both products. The ethoxy product is also made by Naugatuck Chemical which proposed the same rates. The Rubber Association of Canada took objection to any general rate of 15 p.c. and 20 p.c. for rubber anti-oxidants and antiozonants. For 6-dodecyl-1,2-dihydro-2,2,4-trimethylquinoline, which is not produced in Canada, the Board recommends rates of Free and 15 p.c. and for 6-ethoxy-1,2-dihydro-2,2,4-trimethylquinoline, which is produced in Canada, the Board recommends rates of 10 p.c. and 15 p.c.

Furazolidone, though not the subject of representations, is ruled made in Canada and dutiable at rates of 15 p.c. and 20 p.c. under tariff item 711. The Board recommends rates of 10 p.c. and 15 p.c.

Maleic hydrazide is produced in Canada by Naugatuck Chemical and is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. As a pesticide, it is subject to free entry under the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35). Naugatuck proposed continued rates of 15 p.c. and 20 p.c. and Chemical Specialties Association - a division of Propas Chemicals & Equipment Co. Ltd. - proposed continued free entry. For maleic hydrazide the Board recommends 10 p.c. and 15 p.c.

Melamine, produced in Canada, has varied uses the largest of which is in the manufacture of resins and moulding compounds in which close to 3 million pounds are used annually. At the time of the hearing melamine was entered free of duty under tariff item 921 for use in making resins and its moulding compositions are free of duty under tariff item 902(f). Since that time melamine has been ruled to be made in Canada so the end-use provisions of tariff item 921 no longer apply and the product is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The proposals at the hearing were for free entry as long as melamine was not made in Canada and rates of 15 p.c. and 20 p.c. when Canadian production began. The Board recommends rates of 10 p.c. and 15 p.c.

Morpholine, as a chemical ruled to be of a kind produced in Canada, is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. At the hearing the Board was informed that representations would not be made because of lack of commercial significance. The Board recommends rates of Free and 15 p.c.

Phenylazo-diamino-pyridine hydrochloride, phenylbiphenyl-oxadiazole (PBD), 1,4-bis-2-(5-phenyloxazolyl)-benzene (POPOP) (subject to end-use item 791 - Recommended Item R-35) and piperazine phosphate are now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind produced in Canada. For them the Board recommends rates of 10 p.c. and 15 p.c.

Potassium dichloroisocyanurate and trichloroisocyanuric acid are not produced in Canada but are imported from the United States to make bleaches. They are generally classified under tariff items 208t and 216 at rates of Free and 15 p.c. but imports are entered free of duty because of the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35). Proposals were made for continued duty-free entry to which Javex Co. Ltd. objected on the grounds that competitive products were made in Canada containing dichlorodimethyl hydantoin (29.25), sodium perborate (28.46), potassiummonopersulphate (28.38) and sodium hypochlorite (28.31); Javex also mentioned three ingredients used in the United States competitive with those it used in Canada: the potassium dichloroisocyanurate of this heading, sodium monopersulphate (28.38) and lithium hypochlorite (28.31); for these various products, other than sodium hypochlorite for which rates of 10 p.c. and 15 p.c. were recommended, the Board has recommended rates of Free and 15 p.c. For potassium dichloroisocyanurate and trichloroisocyanuric acid the Board recommends rates of Free and 15 p.c.

Warfarin, a rodenticide, also subject to free entry under end-use items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35), is now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical of a kind ruled to be made in Canada. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.36 Sulphonamides:			
(1) Other than the following	Free	15	25
(2) Chlorpropamide	10	15	25
(3) Sodium sulphamethazine	10	15	25
(4) Sulphadiazine	10	15	25
(5) Sulphamethazine	10	15	25

N1-Acetyl-3,4-dimethyl-5-sulphanilamide isoxazole; acetyl-sulphadiazine (857), acetylsulphamerazine (857), acetylsulphamethylthiodiazole (857), acetylsulphathiazole (857), bendrofluazide, chloramine T; 6-chloro-3,4-dihydro-7-sulphamylbenzo-1,2,4-thiadiazine-1,1-dioxide; chlorothiazide; 2,4-dimethoxy-6-sulphanilamide-1,3-diazine; formylsulphathiazole, halazone (219a, 791), hydrochlorothiazide, methylclothiazide, phthalylsulphathiazole, potassium sulphaquinoxaline (*219h), probenecid, sodium sulphathiazole, succinylsulphanilamide sodium, succinylsulphathiazole, sulphacetamide, sulphacetamide sodium, sulphadimethoxine, sulphaethylthiadiazole, sulphaguanidine, sulpha-furazole, sulphamerazine, sulphamethizole, sulphamethylthiadiazole, ortho-sulphamylbenzoic acid, para-sulphamylbenzylamine, sulphanilamide, sulphapyridine, sulphaquinoxaline (*219h), sulphasomidine, sulphathiazole, sulphathiourea, tolbutamide and orthotoluenesulphonamide, as chemicals or acids of a kind not produced in Canada are, subject to the end-use items indicated in parentheses, entered under tariff items 208t and 216 at rates of Free and 15 p.c. Note on end-use items: 219a see Recommended Item 38.11, *219h remain unchanged, 791 see Recommended Item R-35. For these products the Board recommends rates of Free and 15 p.c.

(NOTE - The products in the previous paragraph which are sometimes listed with their "para-aminobenzenesulphon" prefixes are all listed instead with their "sulpha" prefixes.)

Chlorpropamide is produced in Canada by Fine Chemicals of Canada Ltd. in volume said to be sufficient to supply Canadian requirements. It is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. which the company proposed be continued. The Board recommends rates of 10 p.c. and 15 p.c.

Sodium sulphamethazine and sulphamethazine (subject to end-use item *219h which would remain unchanged) are produced in Canada by Naugatuck Chemicals but, not having been ruled to be so made, are entered under tariff item 208t at rates of Free and 15 p.c. For them the Board recommends rates of 10 p.c. and 15 p.c.

Sulphadiazine is made in Canada and entered under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.37 Sultones and sultams	Free	15	25

The products of this Recommended Item include the following which are entered at rates of Free and 15 p.c. under tariff item 208t or 216 as chemicals or acids of a kind not produced in Canada: naphthosultam-2,4-disulphonic acid; phenolsulphonephthalein; 1,3-propane-sultone and thymolsulphonephthalein. The Board recommends continued rates of Free and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.38 Provitamins and vitamins, natural or reproduced by synthesis (including natural concentrates), derivatives thereof used primarily as vitamins, and intermixtures of the foregoing, whether or not in any solvent:			
(1) Other than the following	Free	15	25
(2) Intermixtures containing one or more of the products which follow	10	15	25
(3) Provitamin A	10	15	25
(4) Vitamin A and its derivatives			
(a) For use in the production of food products for human consumption	Free	15	25
(b) For other uses	10	15	25
(5) Vitamin B ₃ (pantothenic acid) and its derivatives	10	15	25
(6) Vitamin B ₆ and its derivatives	10	15	25
(7) Vitamin B ₁₂ and its derivatives	10	15	25
(8) Vitamin C and its derivatives	10	15	25
(9) Provitamin D ₃ , vitamin D ₃ and their derivatives	10	15	25

The designation "vitamin A" is used either as a synonym for vitamin A₁ or to mean collectively vitamin A₁ and vitamin A₂; in this summary it is used in its collective sense. Vitamin A₁ acid is also known as retinoic acid, Vitamin A₁ alcohol as axerophthol and retinol and vitamin A₂ alcohol as 3-dehydroaxerophthol and 3-dehydroretinol. The provitamin is a precursor of the vitamin; it assumes vitamin activity upon activation within the animal body; customarily no differentiation is made between the free vitamin and the provitamin when speaking of the vitamin content of a food. Vitamin A was the subject of lengthy representations before the Board. Its derivatives which came to the Board's attention include vitamin A acetate, vitamin A acid, vitamin A aldehyde and vitamin A palmitate. The representations before the Board dealt at length with the distinction between vitamin A derived from fish oils and synthetic vitamin A. Comparative prices

do not appear to be a significant factor in the choice between them but rather potency, odour and taste; there was conflicting evidence on this score though it appears that manufacturers of margarine prefer the synthetic product to the one derived from fish oil. Synthetic vitamin A is not produced in Canada. Concentrates of vitamin A in fish-liver oil, in 1962, were produced by four companies. Estimates of the market in 1960 ranged between a low of 18 trillion units valued at \$1.5 million to about 28 trillion units. Canadian prices were said to be about 10 per cent lower than those in the U.S.A. Vitamin A acetate and vitamin A palmitate for use in the production of food products for human consumption are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada and for other uses, at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind produced in Canada; the vitamin A alcohol and aldehyde are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada; the vitamin A acid is entered under tariff item 216 at rates of Free and 15 p.c.; all of the foregoing are subject to free entry under tariff item *219h (which would remain unchanged) for use in animal or poultry feeds and under the end-use provisions of tariff item *830. Most of the proposals sought free entry for synthetic vitamin A, though Western Chemical Industries, the only Canadian producer of vitamin A to make representations, sought rates of 15 p.c. and 20 p.c. without distinction between the synthetic product and that derived from fish oils. Animal and poultry feeds account for about half the use of vitamin A in Canada and for this purpose the product is entered free of duty under tariff item *219h which would remain unchanged. To meet the issue the Board recommends continuing the existing end-use provisions relating to use in the production of food products for human consumption and extending the recommended rates to vitamin A and all its derivatives. The recommendation is, therefore, that Vitamin A and its derivatives should bear rates of Free and 15 p.c. for use in the production of food products for human consumption and rates of 10 p.c. and 15 p.c. for other uses.

Provitamin A, of vegetable derivation, need not be subject to distinctions in use because it has not the problem of taste or smell arising from fish oil derivation. It is now entered under tariff item 208t at rates of Free and 15 p.c. Because of its close relationship with Vitamin A the Board recommends for it rates of 10 p.c. and 15 p.c.

A large number of vitamin products are now entered at rates of Free and 15 p.c. under tariff item 208t or 216 as chemicals or acids of a kind not produced in Canada. They include vitamin B₁ (aneurine, thiamine) and its derivatives: iodothiamine, iodothiamine hydrochloride, iodothiamine hydroiodide, thiamine hydrochloride, thiamine mononitrate, thiamine orthophosphate, thiamine orthophosphate dihydrochloride, thiamine orthophosphate monohydrochloride, thiamine salicylate hydrobromide, thiamine salicylate hydrochloride and thiamine-1,5-salt; vitamin B₂ (lactoflavine, riboflavine) (subject to end-use item *219f which would remain unchanged) and its derivatives: hydroxymethyl riboflavine, riboflavine-5'-orthophosphate, riboflavine-5'-orthophosphate diethanolamine, riboflavine-5'-phosphate sodium and riboflavine-5'-sodium hydrogen phosphate, vitamin B₉ (folic acid) and its derivative folinic acid, provitamin D₂ (875a), vitamin D₂ (calciferol,

ergosterol, viosterol) and its derivative ergosteryl acetate, pro-vitamin D₄, vitamin D₄ (22,23-dihydroergosterol) and their derivative 22-23-dihydroergosterol acetate, provitamin D₅, vitamin D₅ (7-dehydro-beta-sitosterol), vitamin E (tocopherol) and its derivatives disodium-alpha-tocopheryl phosphate, dl-a-tocopherol acetate, tocopheryl di-aminoacetate and tocopheryl hydrogen succinate, vitamin H (biotin) and its derivative biotin methyl ester, vitamin K₁ (phylloquinone, phytomenadione, phytonadione) and its derivative dihydrophylloquinone, vitamin K₂ (farnoquinone), pro PP factor (niacin, nicotinic acid), PP factor (niacinamide, nicotinamide) and their derivatives calcium nicotinate, nicotinamide hydrochloride, nicotinomorpholide and sodium nicotinate. For all these products the Board recommends continued rates of Free and 15 p.c.

Vitamin B₃ (pantothenic acid) and its derivatives D-pantothenol, D-pantothenol ethyl ether and sodium-D-pantothenate are entered at rates of Free and 15 p.c. under tariff items 208t and 216 as chemicals or acids of a kind not produced in Canada whereas the vitamin B₃ derivative calcium pantothenate is entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical of a kind produced in Canada. Vitamin B₆ (adermine, pyridoxine, pyridoxol) and its derivatives pyridoxal, pyridoxal hydrochloride, pyridoxamine, pyridoxamine dihydrochloride, pyridoxamine phosphate, pyridoxine orthophosphate, and pyridoxine tripalmitate are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada whereas the vitamin B₆ derivative pyridoxine hydrochloride is entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical of a kind produced in Canada. Vitamin B₁₂ (cobalamin) is entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical of a kind produced in Canada whereas cyanocobalamin (vitamin B_{12a}), hydroxocobalamin (vitamin B_{12b}), nitrocobalamin (vitamin B_{12c}) and sulphitocobalamin are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. Vitamin C (ascorbic acid) and its derivative sodium ascorbate are entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind produced in Canada whereas the vitamin C derivatives ascorbyl palmitate, calcium ascorbate, calcium ascorboglutamate, calcium hypophosphitoascorbate, magnesium ascorbate, sarcosine ascorbate, sodium ascorboglutamate and strontium (1) ascorbocinchoninate are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. Vitamin D₃ (cholecalciferol, 7-dehydrocholesterol) is entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as a chemical of a kind produced in Canada whereas provitamin D₃ and its derivative 7-dehydrocholesteryl acetate are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. In line with its recommendations for vitamin A and its derivatives, where the vitamin or one of its derivatives is produced in Canada the Board is considering the active source of the vitamin to be available from Canadian production. It therefore recommends for all the foregoing products: vitamin B₃ and its derivatives, vitamin B₆ and its derivatives, vitamin B₁₂ and its derivatives, vitamin C and its derivatives and provitamin D₃, vitamin D₃ and their derivatives rates of 10 p.c. and 15 p.c.

All of the foregoing vitamins, provitamins and their derivatives are subject to free entry under the provisions of tariff item *219h (which would remain unchanged) if they have not been ruled to be

of a kind produced in Canada and nicotinic acid also to the end-use provisions of tariff item 216i, provitamin D₂ (ergosterol) to the end-use provisions of tariff item 875a, provitamin D₄ and provitamin D₅ to the end-use provision of tariff item 863 and the vitamin A and vitamin D₃ products are subject to the end-use provisions of tariff item *830, which would remain unchanged.

For the intermixtures which would now be entered at rates of 15 p.c. and 20 p.c. under tariff item 220a(i), the Board is recommending rates of 10 p.c. and 15 p.c. if the intermixture contains products bearing these rates and rates of Free and 15 p.c. if the intermixture contains only products bearing these rates.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.39 Hormones, natural or reproduced by synthesis, and derivatives thereof, used primarily as hormones:			
(1) Other than the following	Free	15	25
(2) ACTH (adrenocorticotrophin)	10	15	25
(3) Oxytocin	10	15	25
(4) Sodium estrone sulphate	10	15	25
(5) Testosterone enanthate			
benzilic acid hydrazone	10	15	25
(6) Triamcinolone	10	15	25
(7) Vasopressin	10	15	25

ACTH (adrenocorticotrophin) (*206d), oxytocin (extract, pituitary body, posterior lobe) (*206a(4), *206d), triamcinolone and vasopressin (extract, pituitary body, posterior lobe) (*206a(4), *206d), subject to the end-use items indicated in parentheses (both of which would remain unchanged), are now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind produced in Canada. The Board recommends rates of 10 p.c. and 15 p.c.

Adrenal cortex extract (*206d), adrenaline (epinephrine) (*206a(1) and (4) and *206d), adrenaline acid tartrate, adrenaline hydrochloride, adrenaline salicylate, adrenosterone, DL-alдостерone (*206d), androsterone, betamethosone, chorionic gonadotrophin (*206d), corticosterone (*206d), cortisone (*206d), cortisone acetate, 11-dehydrocorticosterone (*206d), deoxycorticosterone (*206d), deoxycorticosterone acetate, deoxycorticosterone-6-(beta-lactosido)-D-glucoside (*206d), deoxycorticosterone tetra-acetyl-beta-D-glucoside (*206d), dexamethasone, dexamethasone-21-(disodium phosphate); 6-alpha,9-alpha-Difluoro-11-beta-21-dihydroxy-16-alpha,17-alpha-isopropylidenedioxy-pregna-1,4-diene-3,20-dione; dimethisterone, epinephrine racemic (*206a(4), *206d, 863), equilenin (863), equilin (863), ethinylestradiol, ethisterone, fludrocortisone, fludrocortisone acetate; 9-alpha-fluoro-11-beta-21-dihydroxy-16-alpha,17-alpha-isopropylidenedioxy-pregna-1,4-diene-3,20-dione; 9-alpha-fluoro-17-alpha-hydroxycorticosterone-21-acetate; 9-alpha-fluoro-11-beta-hydroxy-17-methyltestosterone, 6-alpha-fluoro-16-alpha-methylprednisolone, 9-alpha-fluoro-16-beta-methylprednisolone, 9-fluoro-prednisolone, fluoxymesterone, follicle-stimulating hormone (*206d), growth inducing hormone (*206d), hydrocortamate

hydrochloride, hydrocortisone (*206d, 863), hydrocortisone acetate, hydrocortisone diethylaminoacetate hydrochloride, hydrocortisone sodium succinate, 17-beta-hydroxy-17-alpha-methylandrosterone, hyperglycaemic glycogenolytic factor (*206a(4), *206d), insulin (*206a(1) and (4), *206d), kalleone (*206d), lactogenic hormone (*206d), luteinising hormone (*206d), methyl androstanolone, 6-Methyl-delta-1-hydrocortisone (863), 2-methylhydrocortisone (863), methyl testosterone, L-Noradrenaline (*206d), L-Noradrenaline acid tartrate (*206d), L-Noradrenaline hydrochloride, (*206d), L-Noradrenaline salicylate (*206d), norethandrolone, norethindrone, oestradiol (*206d, 863), oestradiol benzoate, oestradiol cyclopentylpropionate, oestradiol-3-17-dienanthate, oestradiol dipropionate, oestriol, oestrone (863), parathyroid hormone (*206d), piperazine estrone sulphate, polyestradiol phosphate, prednisolone, prednisolone acetate, prednisolone-21-(disodium phosphate), prednisolone phosphate, prednisolone-21-(m-sodium-sulphobenzoate), prednisolone sodium succinate; prednisolone-11-beta, 16-alpha-21-trihydroxy-1,4-pregnadiene-3,20-dione; prednisone (*206d), progesterone (*206d, 863), serum gonadotrophin, sodium adreno chrome semicarbazone salicylate complex, sodium thyroxine; sodium-1,3,5,3'-tri-iodothyronine; testosterone (*206d, 863), testosterone acetate, testosterone benzoate, testosterone beta-cyclopentylpropionate, testosterone enanthate, testosterone phenylacetate, testosterone propionate, thyrotrophin (*206d), thyroxine, triamcinalone acetonide, tripara-anisylchloroethylene and vasopressin tannate, subject to the end-use items indicated in parentheses (tariff item *206a and *206d would remain unchanged), are now entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. The Board recommends continued rates of Free and 15 p.c.

Sodium estrone sulphate and testosterone enanthate benzilic acid hydrazone are now entered under tariff item 208t at rates of Free and 15 p.c. These two products are now made in Canada. For them the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.40 Enzymes:			
(1) Other than the following	Free	15	25
(2) Catalase	10	15	25
(3) Chymotrypsin	10	15	25
(4) Pancreatin	10	15	25
(5) Papain	Free	5	17½
(6) Pepsin	10	15	25
(7) Rennet	Free	Free	Free
(8) Trypsin	10	15	25

Alpha-amylase, amylases obtained from bacteria and moulds, bromelain, ficin, invertase, lipase, malt amylases and pectic enzymes are now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. not as acids, chemicals or drugs of a kind produced in Canada but rather as other goods not elsewhere enumerated in the Customs Tariff. For these products the Board recommends rates of Free and 15 p.c.

Chymotrypsin, pancreatin, pepsin and trypsin are ruled to be chemicals of a kind produced in Canada and as such are entered under tariff item 711 at rates of 15 p.c. and 20 p.c.; catalase, is now also entered under tariff item 711, but as goods not elsewhere enumerated in the Customs Tariff. For these five enzymes the Board recommends rates of 10 p.c. and 15 p.c.

Hyaluronidase, thrombin, thrombokinase and urease are now entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. The Board recommends continued rates of Free and 15 p.c.

Some of the products in the preceeding paragraphs are subject to provisions of tariff item *168 and of end-use item *206d, both of which would remain unchanged; some are also entered as mixtures under tariff item 220a(i) at rates of 15 p.c. and 20 p.c.

Papain is entered at rates of Free, 5 p.c. and $17\frac{1}{2}$ p.c. under tariff item *153b which is not referred to the Board. For uniformity of nomenclature the Board is recommending the deletion of tariff item *153b and is including papain in the present Recommended Item at the existing rates of Free, 5 p.c. and $17\frac{1}{2}$ p.c.

Rennet is entered free of duty under all Tariffs under tariff item *11 which is not referred to the Board. Again for uniformity of nomenclature the Board is recommending the deletion of tariff item *11 and is including rennet in the present Recommended Item with continued free entry under all Tariffs.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.41 Glycosides; natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives:			
(1) Other than the following	Free	15	25
(2) Aloin	10	15	25
(3) Rutin	10	15	25

The products of this Recommended Item include the following which are entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada: amygdalin, arbutin, digitalin, digitalis, digitoxin, digoxin, glycyrrhizates, glycyrrhizin, salicin, saponins and strophanthin. Also included are the tannates and other tannin derivatives of glycosides which are entered free of duty under tariff item 203. The Board recommends rates of Free and 15 p.c.

Two products: aloin and rutin are entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind ruled to be made in Canada. For them the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.42 Vegetable alkaloids, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives:			
(1) Other than the following	Free	15	25
(2) Nicotine and its salts	Free	Free	10
(3) Quinidine, salts of	Free	Free	Free
(4) Quinine, salts of	Free	Free	Free

Aconitine, aminophyllin, apomorphine, apomorphine hydrochloride, arecoline, atropine, atropine sulphate, berberine hydrochloride, brucine sulphate, caffeine, caffeine citrate, cinchonidine, cinchonidine sulphate, cinchonine, cocaine, cocaine hydrochloride, colchicine, coniine, cotarnine, curarine, deserpidine, diacetylmorphine, dihydrocodeine, dihydrocodeinone, dihydrohydroxycodeinone, dimenhydrinate, emetine, ephedrine, ephedrine hydrochloride, ephedrine sulphate, ergometrine maleate, ergometrine tartrate, ergotamine, ergotamine tartrate, ethylmorphine, ethylmorphine hydrochloride, homatropine, homatropine hydrobromide, homatropine hydrochloride, homatropine methobromide, homatropine sulphate, hydroquinine, hyoscyne, hyoscyne methobromide, hyoscyne methonitrate, hyoscyamine, hyoscyamine hydrobromide, isopilocarpine hydrochloride, isopilocarpine nitrate, lobeline sulphate, methylamphetamine, morphine, morphine hydrochloride, morphine sulphate, narceine, narcotine, papaveretum, papaverine, papaverine hydrochloride, pholcodine, physostigmine, physostigmine hydrobromide, physostigmine hydrochloride, physostigmine salicylate, physostigmine sulphate, physostigmine sulphite, pilocarpine, pilocarpine hydrochloride, pilocarpine nitrate, piperine, protoveratrine, pseudoephedrine, quinidine, quinine, reserpine, reserpine hydrochloride, scopolamine methyl bromide, sparteine, sparteine sulphate, strychnine, strychnine arsenate, strychnine hydrochloride, strychnine nitrate, strychnine phosphate, strychnine sulphate, thebaine, theobromine other than crude, theophylline, tubocuranine chloride, beratrine and yohimbine hydrochloride are now entered at rates of Free and 15 p.c., under tariff item 208t as chemicals of a kind not produced in Canada; tannates and other tannin derivatives of vegetable alkaloids are entered free of duty under all tariffs under tariff item 203; theobromine, crude, is also entered free of duty under all tariffs under tariff item 208w(1); strychnine and its arsenate, hydrochloride, nitrate, phosphate and sulphate are also subject to the end-use provisions of tariff items 219a (Recommended Item 38.11) and 791 (Recommended Item R-35). For all these products the Board recommends rates of Free and 15 p.c.

Codeine and its salts were the subject of representations by Charles E. Frosst & Company; the Canadian Pharmaceutical Manufacturers Association listed codeine phosphate as a product of interest to its members. Both the company and the association proposed continuation of the existing rates of Free and 15 p.c. under tariff item 208t. Codeine is widely used as a narcotic and by international agreement is not made in Canada. In 1963, over 10,000 pounds were used in the country; most imports are from Britain. The Board recommends continued rates of Free and 15 p.c.

Nicotine and its salts are now entered under tariff item 209b free of duty under both tariffs; they were not the subject of representations. The Board recommends continued free entry.

The salts of quinidine and the salts of quinine are now entered free of duty under all tariffs under tariff item *206 which is not within this Reference. For uniformity of nomenclature the Board is recommending the deletion from tariff item *206 of the provision relating to the salts of quinine and their relocation in this Recommended Item with continued free entry.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.43 Sugars, chemically pure, other than sucrose and glucose, but including lactose; sugar ethers and sugar esters, and their salts, other than products of Recommended Items 29.39, 29.41 and 29.42:			
(1) Other than the following	Free	15	25
(2) Lactose	10	15	25

Arabinose, digitoxose, fructose (*206b, which would remain unchanged), fructose phosphate, fucose, galactose, glucose phosphate, hydroxypropyl sucrose, maltose, methyl glucoside (921), raffinose, rhamnose, ribose, sorbose, sucrose acetate isobutyrate (791, see Recommended Item R-35), sucrose mono-acetate (921), sucrose octa-acetate (921), sucrose octa-benzoate (921), trehalose and xylose subject to the end-use items indicated in parentheses, are all entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. The Board recommends rates of Free and 15 p.c.

In the Brussels Nomenclature glucose and lactose, even when chemically pure, fall in heading 17.02; glucose is classified in existing item *139 which is not within this Reference. However lactose is classified as a chemical of a kind produced in Canada and entered under tariff item 711 at rates of 15 p.c. and 20 p.c. It is produced in Canada by two manufacturers. In 1962 the market was estimated at 2 million pounds of which imports, mostly from Britain and Holland, supplied about 25 per cent. Peebles Products Ltd., one of the manufacturers, represented that its capacity was sufficient to supply Canadian needs in the foreseeable future and proposed that rates of 15 p.c. and 20 p.c. continue to apply. For lactose the Board recommends rates of 10 p.c. and 15 p.c.

Because lactose is excluded from the Brussels Heading which forms the basis of this Recommended Item, because Brussels Heading 17.02 which provides for lactose is not being recommended for adoption in the Customs Tariff and because provision for lactose is made in the Customs Tariff only in tariff item 711 as a result of a departmental ruling, some special provision becomes necessary. To meet the issue the Board recommends a modification in the first part of the Brussels Heading by which the words "Sugars, chemically pure, other than

sucrose, glucose and lactose;" be changed to "Sugars, chemically pure, other than sucrose and glucose, but including lactose;" this modification will classify chemically pure lactose, in this Recommended Item, with those chemical products most closely resembling it and most closely allied to it.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.44 Antibiotics:			
(1) Other than the following	Free	15	25
(2) Chloramphenicol and its derivatives	10	15	25
(3) Penicillin and its derivatives, not including crude penicillin	10	15	25
(4) Tetracycline and its derivatives	10	15	25

Actinomycetin, actinomycin, amphotericin, bacitracin and its salts, cycloserine, dihydrostreptomycin and its salts, erythromycin and its derivatives, gramicidin, friseofulvin, kanamycin and its salts, neomycin and its salts, novobiocin and its salts, oleandomycin and its salts, polymyxin, polymyxin-B-sulphate, streptomycin and its salts, streptothricin, thiostrepton, tyrocidine, tyrothricin, viomycin and xanthocillin are now entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. The Board recommends continued rates of Free and 15 p.c.

Chloramphenicol and chloramphenicol palmitate are both entered at rates of 15 p.c. and 20 p.c. under tariff item 711 as chemicals of a kind ruled to be made in Canada; chloramphenicol sodium succinate is entered at rates of Free and 15 p.c. under tariff item 208t as a chemical of a kind not produced in Canada. Fine Chemicals of Canada, the producer, proposed rates of 15 p.c. and 20 p.c. for all three products. The Board recommends for chloramphenicol and its derivatives rates of 10 p.c. and 15 p.c.

Penicillin is ruled to be a chemical of a kind produced in Canada and consequently entered under tariff item 711 at rates of 15 p.c. and 20 p.c. Crude penicillin, subject to the end-use provisions of tariff item 875b, is entered under tariff item 208t at rates of Free and 15 p.c. Penicillin derivatives are also understood to be entered under tariff item 711; representations were made concerning some of these derivatives: bacitracin penicillin, benzathine penicillins, benzylpenicillins, dibenzylethylene diamine penicillins, N'-ethyl piperidine penicillin crude, phenoxymethyl penicillin, potassium penicillin, potassium phenoxymethyl penicillin, procaine penicillin and sodium penicillin. For penicillin, crude, the Board recommends continued rates of Free and 15 p.c. and for penicillin and its derivatives, rates of 10 p.c. and 15 p.c.

Tetracycline, chlortetracycline and dimethylchlortetracycline are ruled to be made in Canada and entered under tariff item 711 at rates of 15 p.c. and 20 p.c. Other tetracycline derivatives, including oxytetracycline and tetracycline hydrochloride, are classified in

tariff item 208t at rates of Free and 15 p.c. Proposals were made for rates of 15 p.c. and 20 p.c. on tetracycline and its derivatives because of their similarity of characteristics. For tetracycline and its derivatives the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
29.45 Other organic compounds:			
(1) Other than the following	Free	15	25
(2) Copper acetoarsenite (Paris green)	Free	7½	15

Aluminum isopropoxide, diketene, diphenyl ketene, ketene, quassin and sodium ethoxide are now entered at rates of Free and 15 p.c. under tariff item 208t as chemicals of a kind not produced in Canada. The Board recommends continued rates of Free and 15 p.c.

Copper acetoarsenite (Paris green) is now (subject to end-use item 791: Recommended Item R-35) entered under tariff item 250 at rates of Free and 7½ p.c. which the Board recommends be continued.

The only representations made under this heading dealt with the alleged application of end-use tariff item 875a to aluminum isopropoxide and with the continued application of end-use item 791 (Recommended Item R-35) to copper acetoarsenite (Paris green).

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
31.00 Fertilizers and certain enumerated goods:			
(1) Fertilizers, formulated; goods for use as fertilizers; all the foregoing whether or not otherwise provided for in this item or elsewhere in Schedule A	Free	Free	Free
(2) The following, when not for use as fertilizers:			
Ammonium nitrate, whether or not coated or prilled			
Ammonium phosphates containing, in the dry state, not less than 6 mg. of arsenic per kg.			
Ammonium sulphate			
Ammonium sulphonitrate			
Bone ash			
Bone dust			
Calcium cyanamide (cyanamid, lime nitrogen) containing, in the dry state, not more than 25 per cent by weight of nitrogen whether or not treated with oil			
Calcium hydrogen phosphate (calcium phosphate, dibasic) containing, in the dry state, not less than 0.2 per cent by weight of fluorine			
Calcium nitrate containing, in the dry state, not more than 16 per cent by weight of nitrogen			
Calcium nitrate - magnesium nitrate			
Calcium phosphates, disintegrated (calcined), (thermophosphates and fused phosphates)			
Charred bone			
Fish offal or refuse			
Magnesium sulphate - potassium sulphate containing not more than 30 per cent by weight of K ₂ O			
Mineral potash			
Phosphate rock			
Potassic sodium nitrate			
Potassium chloride, but not including cultured crystals weighing not less than 2½ grammes each			
Potassium sulphate containing, in the dry state, not more than 52 per cent by weight of K ₂ O			

31.00

(Cont'd) (2) Sodium nitrate containing, in
the dry state, not more than
16.3 per cent by weight of
nitrogen
Superphosphates (single, double
or triple)
Tankage
Urea containing, in the dry
state, not more than 45 per
cent by weight of nitrogen,
whether or not coated or
prilled

Free Free Free

The Board is recommending a change from the present system of nomenclature and the adoption of a new nomenclature, adapted from but not identical to the Brussels Nomenclature.

In the existing Tariff, item 662 provides for unmanufactured fertilizers and certain named products; item 663 provides for manufactured or compounded fertilizers; item 663b provides for articles which enter into the cost of the manufacture of fertilizers; item 1046 provides for drawback of duty on materials used in the manufacture of articles entitled to entry under item 663b.

In the Brussels Nomenclature Chapter 31 deals with fertilizers; in rather general terms, natural animal or vegetable fertilizers are covered in heading 31.01; mineral or chemical fertilizers are covered in three headings: 31.02 if they are nitrogenous, 31.03 if they are phosphatic and 31.04 if they are potassic; other fertilizers and goods of the Chapter in certain packaged forms are covered in heading 31.05. Throughout these headings provision is also made for certain chemicals commonly used as fertilizers whether or not they are imported for fertilizer use. There are also, in the Brussels system, certain special provisions relating to mixtures.

In the Brussels Nomenclature the classification of products in Chapter 31 is not dependent upon end-use as a fertilizer and the Chapter does not include non-enumerated products even when they are used as fertilizers.

In its Recommended Item the Board has departed from the wording of the Brussels Nomenclature; it has sought to encompass by name all the products so mentioned in the Brussels Explanatory Notes in order to preserve the general pattern of exclusions from the other Brussels headings in which such products would otherwise be classified; it has sought to recommend an item more general in nature than the Brussels headings and one which re-enacts the end-use concept prevailing in the existing Tariff; it has also sought to avoid many of the detailed provisions of the Brussels system including those relating to the form or packaging of the products and to mixtures.

To indicate its departure from the Brussels Nomenclature and to indicate its endeavour to cover all the provisions of the Brussels headings in Chapter 31 the Board has given to its Recommended Item the number 31.00 which does not exist in the Brussels Nomenclature.

Paragraph (1) of the Recommended Item is designed to encompass the compounded or manufactured fertilizers of tariff item 663, the unmanufactured fertilizers and the animal and vegetable manures of tariff item 662, all goods for use as fertilizers and all other substances named in paragraph (2) of the Recommended Item when they are for use as fertilizers.

Paragraph (2) provides for certain enumerated goods when not for use as fertilizers: ammonium nitrate which would otherwise be classified in Recommended Item 28.39; ammonium phosphates containing, in the dry state, not less than 6 mg. of arsenic per kg. which would otherwise be classified with the remaining ammonium phosphates of lower arsenic content in Recommended Item 28.40; ammonium sulphate which would otherwise be classified in Recommended Item 28.38; ammonium sulphonitrate which would otherwise be classified in Recommended Item 28.48; bone ash; bone dust; calcium cyanamide containing, in the dry state, not more than 25 per cent by weight of nitrogen whether or not treated with oil which would otherwise be classified with calcium cyanamide of higher nitrogen content in Recommended Item 28.58; calcium hydrogen phosphate, containing in the dry state, not less than 0.2 per cent by weight of fluorine which would otherwise be classified with the calcium hydrogen phosphate of lesser fluorine content in Recommended Item 28.40; calcium nitrate containing, in the dry state, not more than 16 per cent by weight of nitrogen which would otherwise be classified with the calcium nitrate of higher nitrogen content in Recommended Item 28.39; calcium nitrate - magnesium nitrate which would otherwise be classified in Recommended Item 28.48; disintegrated (calcined) calcium phosphates (thermophosphates and fused phosphates) which would otherwise be classified in Recommended Item 38.19; charred bone; fish offal or refuse; magnesium sulphate - potassium sulphate containing, in the dry state, not more than 30 per cent by weight of K_2O which would otherwise be classified with the magnesium sulphate - potassium sulphate of higher K_2O content in Recommended Item 28.48; mineral potash; phosphate rock; potassic sodium nitrate; potassium chloride which would otherwise be classified in Recommended Item 28.30; potassium sulphate containing, in the dry state, not more than 52 per cent by weight of K_2O which would otherwise be classified with the potassium sulphate of higher K_2O content in Recommended Item 28.38; sodium nitrate containing, in the dry state, not more than 16.3 per cent by weight of nitrogen which would otherwise be classified with the sodium nitrate of higher nitrogen content in Recommended Item 28.39; superphosphates which would otherwise be classified in Recommended Item 28.40; tankage; and urea containing, in the dry state, not more than 45 per cent by weight of nitrogen which would otherwise be classified with the urea of higher nitrogen content in Recommended Item 29.25.

Recommended Item R-31 covers goods of tariff item 663b which enter into the cost of manufacture of fertilizers and Recommended Item R-43 provides for drawback of duty on materials used in the manufacture of goods entitled to entry under Recommended Item R-31.

Fertilizer sales are increasing rapidly. In 1964, there were 79 establishments of which 45 produced mixed fertilizers, 12 produced straight fertilizers or fertilizer materials and 22 were largely distributors or packagers. In 1963-64, Canadian consumption was 845,000 tons of mixed fertilizers and 610,000 tons of straight fertilizers, a total of 1,455,000 tons with an estimated value of about \$95 million; imports were valued at some \$28 million and exports at about \$75 million.

Because mixed fertilizers are low cost products, transportation costs assume high importance; in consequence international trade is largely in fertilizer materials; in this trade our exports have greatly exceeded our imports in recent years.

Generally speaking, through the operation of tariff items 662, 663b and 1046, unmanufactured fertilizers and articles and materials entering into the cost of manufacturing fertilizers are entered free of duty whereas, under tariff item 663, compounded or manufactured fertilizers are entered at rates of Free and 5 p.c.

For articles entering into the cost of manufacturing fertilizers, Central Spraying Equipment, the Canadian Fertilizer Association, Cyanamid of Canada, the National Farmers' Union, the Aluminum Company of Canada and the Canadian Federation of Agriculture proposed continued free entry.

For materials for use as fertilizers the Canadian Fertilizer Association and Cyanamid of Canada proposed rates of Free and 5 p.c. which represent an increase from free entry to 5 p.c. under the M.F.N. tariff for unmanufactured fertilizers and for calcium cyanamide; Consolidated Mining and Smelting Company and the Aluminum Company of Canada proposed free entry.

Generally, both the National Farmers' Union and the Canadian Federation of Agriculture proposed that there should be no increases in rates, or reduction in the area of low rates by changes in nomenclature.

More specifically the John Inglis Company opposed the continued inclusion of machinery and equipment at the low rates provided by tariff items 663b and 1046. Canadian Industries Limited proposed the exclusion of polyethylene bags from the provision of tariff item 663b.

The broad area of fertilizers is one of low duties or free trade throughout much of the world; it is also one which, in Canada, has traditionally been subject to free entry or to rates not exceeding 5 p.c. on manufactured fertilizers. The Board sees no good reason to continue the 5 p.c. rate on the manufactured fertilizer. The foreign trade in fertilizers is largely in fertilizer materials, now free of duty, rather than in mixed fertilizers for which transportation costs and differences in local conditions and requirements make it more economical to establish plants near the location where they are to be used.

The proposal of the Inglis Company would result in the classification of machinery and equipment in the tariff items dealing with machinery and in the imposition of certain protective duties. The proposal of Canadian Industries Limited would bring polyethylene bags within tariff item 908 at rates of 15 p.c. and 20 p.c. The evidence revealed no real injury in the field of machinery and the Board can see no good reason for removing either of these goods from the application of the present end-use free entry.

Consequently, in paragraph (1) of its Recommended Item the Board recommends duty free entry for formulated fertilizers and goods for use as fertilizers.

Paragraph (1) of the Recommended Item would include the guano and other animal or vegetable fertilizers of Brussels heading 31.01, all formulated fertilizers and any goods for use as fertilizers; among those which came to the Board's attention are the following with the existing item of their present tariff classification indicated in parentheses: ammonia anhydrous (663), ammoniated superphosphate (663), ammonium phosphates containing, in the dry state, less than 6 mg. of arsenic per kg. (663), ammonium phosphate-sulphate (663), animal manures (662), basic slag (*372), blood meal dried and ground, soluble (*206h), blood meal dried and ground, other (*206f), bone meal (662), compost, humus and leaf mould (663), dicalcium phosphate (calcium hydrogen phosphate) (663), fish, whale or animal solubles condensed to contain not less than 5 per cent organic nitrogen (663), formulated fertilizers containing boron, copper, manganese, molybdenum or zinc (663), formulated fertilizers that contain a pest control product (220a(i)), garbage tankage (663), hoof and horn meal (663), mixed fertilizers containing nitrogen, phosphorus or potassium (663), muriate of potash (a potassium salt containing not less than 48 per cent soluble potash chiefly as chlorides) (209), natural rock phosphate (662), nitrogen solutions (ammonia liquor, aqua ammonia) (663), peat (*540a), potash manure salts (209, 662), potassium nitrate (nitrate of potash) (209), processed sewage (663), sulphate of potash (a potassium salt containing not less than 48 per cent soluble potash chiefly as sulphate and not more than 2.5 per cent chlorine) (209 when crude), sulphate of potash-magnesia (a potassium salt containing not less than 20 per cent soluble potash chiefly as sulphate and not less than 25 per cent sulphate of magnesium and not more than 2.5 per cent chlorine) (663), vegetable manures (663) and urea formaldehyde fertilizer materials (663) as well as any of the goods in paragraph (2) of the Recommended Item when for use as fertilizers. The rates are 5 p.c. and $7\frac{1}{2}$ p.c. under tariff item *206f, Free and Free under *206h, Free and Free under 209 and 210e, 15 p.c. and 20 p.c. under 220a(i), Free and Free under *372, *540a and 662, Free and 5 p.c. under 663 and Free and Free under 663a.

In paragraph (2) of its Recommended Item, the Board is also recommending duty-free entry for a list of products even when not for use as fertilizers because they are closely related to fertilizers and because, if they were not provided for in this Recommended Item, they could be classified elsewhere at other rates of duty. In this paragraph (2) are also classified bone ash, bone dust, charred bone, fish offal or refuse, mineral potash, phosphate rock, potassic sodium nitrate and tankage. Of these, the following are now free of duty under all Tariffs under tariff item 662: bone ash, bone dust, charred bone, fish offal or refuse, mineral potash and phosphate rock. Electric Reduction Company proposed free entry for the phosphate rock which it uses to make fertilizers and other products and rates of Free and 5 p.c. for the phosphate fertilizers it makes. Potassic sodium nitrate is entered free of duty under tariff item 210g. Tankage, subject to tariff item 711 at rates of 15 p.c. and 20 p.c. when not for use in fertilizers, is also duty-free under tariff item 662 when entered as an unmanufactured fertilizer.

Ammonium nitrate is one of the most important chemicals produced in Canada; in 1964 production was well in excess of 500,000 tons; merchant sales in the same year are estimated at about 370,000 tons valued at some \$20 million, of which more than half were for export; domestic sales for fertilizer use exceeded 100,000 tons, and for explosive use, were close to 85,000 tons. Production for merchant sales is by four companies operating five plants with a combined annual capacity of over 400,000 tons; two further companies produce largely or entirely for captive use. Most ammonium nitrate in commerce is "prilled", a process involving a coating treatment of globules of the chemical to prevent absorption of moisture and to preserve its free-flowing granular characteristics. Imports, mostly from the U.S.A., have never reached 1,000 tons in the last ten years and in most recent years have been less than 100 tons. Between one-half and two-thirds of domestic production is exported, mostly to the U.S.A. The price of the product is much the same in Canada and in the U.S.A. The safety regulations on explosive substances moving up the St. Lawrence from Quebec City westward restrict overseas competition, though it could exist in the Quebec-Labrador area below Quebec City. Beyond the fertilizer and explosive market there is also a market of perhaps 500 tons for a pure form used in the production of nitrous oxide and of about 1,000 tons for the production of other chemicals. Subject to the special provisions of tariff items 663 and 663b (Recommended Item R-31) concerning fertilizers, prilled ammonium nitrate is entered under tariff item 220a(i) at rates of 15 p.c. and 20 p.c.; if it is not prilled it is generally entered under tariff item 208j at rates of Free and 25 p.c.; for the manufacture of nitrous oxide, under tariff item 208i at rates of Free and 10 p.c. and for the manufacture of fertilizers, free of duty under tariff item 663b (Recommended Item R-31). The proposals before the Board were for rates of 15 p.c. and 20 p.c. for non-fertilizer use, for free entry for use in the manufacture of fertilizers and for rates of Free and 5 p.c. for direct use as a fertilizer. About 75 per cent of the production of Consolidated Mining and Smelting Co. is exported to the U.S.A. Cyanamid of Canada and Brockville Chemicals expressed concern about potential imports from European countries to Northern Quebec and Labrador. For ammonium nitrate, whether or not coated or prilled, the Board has recommended free entry under all Tariffs.

Of the ammonium phosphates, two are important in Canadian commerce: ammonium phosphate dibasic (diammonium hydrogen phosphate; diammonium orthophosphate; diammonium phosphate) and ammonium phosphate monobasic (ammonium acid phosphate; ammonium biphosphate; ammonium dihydrogen orthophosphate; monoammonium phosphate); of the two, the monobasic is much the more important; the fertilizer grade of the monobasic generally contains some of the dibasic form in varying proportions. The combined productive capacity of the five producers in Canada in 1965 was in the neighbourhood of 750,000 tons annually. In 1964 nearly 300,000 tons were consumed in Canada, about 100,000 tons were exported, mainly to the U.S.A. and there were no known imports; the total sales has a value of about \$35 million. The fertilizer use is growing rapidly. The two ammonium phosphates for fertilizer use are entered either free of duty under tariff item 663b (Recommended Item R-31) or at rates of free and 5 p.c. under tariff item 663; otherwise they would be entered under tariff item 208t at rates of Free and 15 p.c., or under tariff item 218 at rates of Free and 25 p.c. Imports have not been large. The product containing, in the dry state, less

than 6 mg. of arsenic per kg. is classified in Recommended Item 28.40 and that containing not less than 6 mg. of arsenic per kg. in the present Recommended Item; the latter appears to encompass the ammonium phosphates of fertilizer grade sold in North America. The proposals for fertilizer grade and use were for free entry. For the ammonium phosphates of this Recommended Item the Board has recommended free entry under all Tariffs.

Ammonium sulphate is produced in Canada. In 1964 production was 282,000 tons, exports were about 240,000 and imports were 20,000 tons. Domestic consumption is about 65,000 tons, almost entirely in fertilizer uses. Transportation costs prevent Western producers from supplying eastern needs; the two major producers, situated in the West, export a large part of their output and eastern needs are largely supplied by imports. Ammonium sulphate is entered free of duty under all Tariffs under tariff item 208. When for use in the manufacture of fertilizers it also qualifies for free entry under tariff item 663b (Recommended Item R-31). The only proposals were for continued free entry which the Board has recommended.

Ammonium sulphonitrate was not the subject of representations and no data on it are available to the Board. For use in the manufacture of fertilizers it is entered duty free under tariff item 663b, for use as a fertilizer it is entered at rates of Free and 5 p.c. under tariff item 663 and generally it would now be entered at rates of Free and 15 p.c. under tariff item 208t. The Board has recommended free entry under all Tariffs.

The calcium cyanamide of this Recommended Item is that containing, in the dry state, not more than 25 per cent of nitrogen, that with the higher nitrogen content being classified in Recommended Item 28.58. Calcium cyanamide is made in Canada by Cyanamid of Canada Ltd., reported to be the only producer in North America. It was originally used as a fertilizer, a use in which it has been largely displaced by other nitrogenous products; its principal use now is in the production of dicyandiamide, a raw material for the production of melamine plastics. The productive capacity of Cyanamid was said to be about 300,000 tons annually. In 1960 production was some 200,000 tons of which 153,400 tons were used captively, 44,000 tons were exported and 2,600 tons were sold domestically. There are no known imports and exports are largely to the U.S.A. The product would be entered free of duty under all Tariffs under tariff item 663a, with possible entry also under tariff items 219a (Recommended Item 38.11), 663b (Recommended Item R-31), 791 (Recommended Item R-35) for specified end-uses or under 220a(i) when treated with oil. The producer proposed continued free entry. As it has already done for the calcium cyanamide of higher nitrogen content in Recommended Item 28.58, the Board has recommended continued free entry.

Calcium hydrogen phosphate (calcium phosphate, dibasic) containing, in the dry state, not less than 0.2 per cent by weight of fluorine, was not the subject of representations and there are no data on its importance in Canadian commerce. It is now entered generally under tariff item 218 at rates of Free and 25 p.c., for animal feed use under tariff item *219h (which would remain unchanged) free of duty, for fertilizer use under tariff item 663 at rates of Free and 5 p.c., for use in the manufacture of fertilizers under tariff item 663b

(Recommended Item R-31) free of duty and for pesticide production under tariff item 791 (Recommended Item R-35) free of duty. The Board has recommended free entry under all Tariffs.

No data are available on calcium nitrate containing, in the dry state, not more than 16 per cent by weight of nitrogen. It is now entered generally under tariff item 208t at rates of Free and 15 p.c., for fertilizer use under tariff item 663 at Free and 5 p.c., for use in the manufacture of fertilizers under tariff item 663b (Recommended Item R-31) free of duty and, when adapted for use in the manufacture of explosives under tariff item 664a free of duty. The Board has recommended free entry under all Tariffs.

Calcium nitrate - magnesium nitrate was the subject of no representations and no data are available concerning it. For fertilizer purposes it is entered under tariff item 663 at rates of Free and 5 p.c. or under tariff item 663b (Recommended Item R-31) free of duty and generally it is subject to entry as an unenumerated product under tariff item 711 at rates of 15 p.c. and 20 p.c. The Board has recommended free entry under all Tariffs.

The disintegrated (calcined) calcium phosphates (thermo-phosphates and fused phosphates) were not the subject of representations and there are no data concerning them. For use in manufacturing fertilizers they would be entered free of duty under tariff item 663b (Recommended Item R-31) and generally they would be subject to entry under tariff item 711 at rates of 15 and 20 p.c. The Board has recommended free entry under all Tariffs.

Magnesium sulphate - potassium sulphate (potassium magnesium sulphate) containing, in the dry state, not more than 30 per cent by weight of K_2O is used in Canada only as a fertilizer ingredient. It is not known to be made in Canada and is imported mainly from the U.S.A. The market appears to be for about 5,000 tons annually with a value of close to \$100,000. At present, it would be subject to entry under tariff item 208t for general use at rates of Free and 15 p.c., for use as a fertilizer, under tariff item 663 at rates of Free and 5 p.c. and for use in the manufacture of fertilizers, under tariff item 663b (Recommended Item R-31) free of duty. The Board has recommended free entry under all Tariffs.

Potassium chloride is commercially available in three grades: manure salts, standard grade and chemical grade. The chemical grade is not produced in Canada but the other two grades have been so produced since 1962 on a very large and increasing scale. The chemical grade contains a minimum of 99.9 per cent potassium chloride; its principal uses are in the production of potassium hydroxide, potassium chlorate, synthetic rubber and other products; it represents less than 5 per cent of the total market for potassium chloride in Canada; it has always been imported and Canadian production is considered to be unlikely in the foreseeable future. Though formerly imported under item 208t at free and 15 p.c., the chemical grade is now entered under temporary tariff item 209e free under both British Preferential and Most-Favoured-Nation Tariffs. All imports have been from the United States which is likely to continue to be the source of this product. There was, of course, the proposal for rates of 15 p.c. and 20 p.c. when the chemical grade was made in Canada; however no reasons were

advanced to support the proposal. Canadian production of the other grades began in 1962; about 95 per cent of this production is for fertilizer use. This Canadian production from mining operations in Saskatchewan has already reached very large proportions and appears destined to reach close to 16 million tons annually by 1972. In 1964 Canadian use amounted to 218,000 tons valued at about \$5 million. Imports have declined since Canadian production began; in 1964 they were 67,000 tons valued at \$1,955,000; because of freight costs imports are likely to continue for the provinces east of Manitoba. In 1964 exports were close to 1.3 million tons, of which almost two-thirds were to the U.S.A. Some forms of the product could be entered under tariff item 663 as a manufactured fertilizer at rates of Free and 5 p.c.; otherwise it qualifies for free entry under both Tariffs under tariff items 209, 209e, 663b (Recommended Item R-31) and 851 (which would remain unchanged). There were proposals for free entry and three, by users, for higher rates when Canadian production began. Even now Canada is exporting 85 per cent of her production. The Board has recommended free entry without distinction in grades or packaging.

Potassium sulphate containing, in the dry state, not more than 52 per cent by weight of K_2O is not produced in Canada; it is imported mainly from the U.S.A., France and Western Germany. Imports declined with the development of the Saskatchewan potash deposits. However, as for potassium chloride, because of transportation costs, imports are likely to continue for the provinces east of Manitoba. The largest use is fertilizer use. The potassium sulphate of this Recommended Item, apart from the two fertilizer items 663 and 663b (Recommended Item R-31), is also entered under tariff item 209, when crude, free of duty under all Tariffs and otherwise under tariff item 711 at rates of 15 p.c. and 20 p.c. In dealing with the potassium sulphate of higher K_2O content in Recommended Item 28.38 the Board recommended free entry under all Tariffs for the product that was less than 99 per cent pure. In line with this recommendation, it has recommended for the potassium sulphate of lower K_2O content of this Recommended Item, free entry under all Tariffs.

Sodium nitrate containing, in the dry state, not more than 16.3 per cent by weight of nitrogen is sodium nitrate of 99 per cent purity. Sodium nitrate is not produced and does not occur in Canada. Only about 700 tons of imports nearing 20,000 tons annually are used in fertilizers. The main use is in explosives. It is now entered free of duty under tariff item 210e or 663b (Recommended Item R-31) when for use in manufacturing fertilizers. For the purer product with higher nitrogen content the Board has recommended free entry in Recommended Item 28.39. For the sodium nitrate of the present item the Board also has recommended free entry under all Tariffs.

Superphosphates are used only for direct application to the soil and in the manufacture of fertilizers; they are consequently entered either under tariff item 663 at rates of Free and 5 p.c. or under tariff item 663b (Recommended Item R-31) free of duty. For non-fertilizer uses they would be subject to entry under tariff item 218 at rates of Free and 25 p.c. There are three producers in Canada. In 1962 close to 460,000 tons were consumed with a total value of some \$11 million; in the same year imports were valued at \$4.8 million and exports at \$2.7 million. The bulk of the Canadian market is in the

provinces east of Manitoba. Electric Reduction Co. (Erco) and Consolidated Mining and Smelting Co. (Cominco) are the two largest producers. Erco's plant is in Ontario but Cominco's is in British Columbia, an area where less of the product is used; consequently Cominco's production is largely for export. Imports have been declining and exports rising. Erco proposed rates of Free and 5 p.c. and Cominco free entry. The Board has recommended free entry under all Tariffs.

Urea containing, in the dry state, not more than 45 per cent by weight of nitrogen would be classified in this Recommended Item; now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 when not prilled or coated or under tariff item 220a(i) when prilled or coated, that with the higher nitrogen would be classified in Recommended Item 29.25 where urea is discussed. In line with its recommendations in Recommended Item 29.25 the Board has recommended for the urea of the present item, free entry under all Tariffs.

The Brussels headings of this Chapter encompass certain products which are not listed in paragraph (2) of the Recommended Item: basic slag (Thomas slag, Thomas phosphates, phosphatic slag, metallurgical phosphates) of 31.03, calcined natural aluminum calcium phosphates of 31.03, crude natural potassium salts of 31.04 and crude potassium salts obtained in the sugar industry from the residues of beet molasses, by incineration, washing, etc. of 31.04. In their non-fertilizer uses it does not appear necessary to the Board to deal with these products; in their fertilizer uses they would be classified in paragraph (1) of this Recommended Item.

Because of the form of its Recommended Item the Board sees no necessity to introduce or comment upon the provisions in the Brussels Explanatory Notes dealing with mixed fertilizers, or goods in tablets, lozenges or packings of any special weight.

Finally, in Recommended Item R-31, the Board recommends continued free entry for the goods which enter into the cost of manufacture of fertilizers when they are imported for use exclusively in such manufacture.

<u>Recommended Items</u>		<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
32.01	Tanning extracts of vegetable origin	Free	Free	Free
32.02	Tannins (tannic acids), including water-extracted gall-nut tannin, and their salts, ethers, esters and other derivatives:			
	(1) Tannins (tannic acids) including water-extracted gall-nut tannin	Free	Free	Free
	(2) The salts, ethers, esters and other derivatives of the foregoing	Free	15	25

32.03 Synthetic tanning substances, whether or not mixed with natural tanning materials; artificial bates for pre-tanning (for example, of enzymatic, pancreatic or bacterial origin):

(1) Other than the following	Free	Free	Free
(2) Sodium formaldehyde naphthalene sulphonates	10	15	25

Canadian consumption of the products of these Recommended Items is valued at about \$1.8 million; almost all of this is supplied by imports.

The tanning extracts of vegetable origin of Recommended Item 32.01 constitute the largest category of products in this chapter; Canadian consumption is about \$1 million annually. Vegetable tanning extracts are not available from Canadian production. Though some of the vegetable raw materials from which they may be derived are imported, they are destined mainly to the production of dyes and colouring extracts and not of tanning extracts. The tanning extracts of vegetable origin include those of oak, chestnut, quebracho, pines, wattle (mimosa), sumach, myrobolans, vallonia, gambier, mangrove and divi-divi; they are now entered free of duty under all Tariffs under tariff item 203 and the Board recommends continued free entry.

The tannins (tannic acids; digallic acids; gallotannic acid) of Recommended Item 32.02 would include pyrogallol and catechol tannins and the tannins extracted from the tanning extracts of Recommended Item 32.01, all of which are now entered free of duty under tariff item 208; they would also include gall-nut tannin (gallotannic acid now entered free of duty under tariff item 203). Recommended Item 32.02 would include the tannates of aluminum, bismuth, calcium, iron, manganese, mercury and zinc as well as certain other derivatives of tannins including acetyltannin and methyleneditannin all entered under tariff item 208t at rates of Free and 15 p.c.; it would not include the following products classified in other Recommended Items: precious metal tannates of 28.49, tannin derivatives of 28.50 to 28.52, gallic acid of 29.16, tannates and tannin derivatives of 29.38 to 29.42 or of 29.44, nor those of proteins. The tannic acid derivatives of Recommended Item 32.02 are mostly used in pharmaceuticals and are either not produced in Canada or are of little importance to their producers; tannic acid imports have varied between \$40,000 and \$60,000 annually in recent years mostly from the U.S.A. The tannins of Recommended Item 32.02 are now entered free of duty under all Tariffs under tariff items 203 and 208 and the tannic acid derivatives, at rates of Free and 15 p.c. under tariff item 208t. The Board is recommending continuation of the existing rates.

The synthetic inorganic tanning preparations (mineral tannins) of Recommended Item 32.03 are based on mineral salts, particularly those of chromium; the consumption of chromium based tanning preparations in Canada has increased from some \$230,000 in the early 1950's to about \$500,000 in 1964; all appear to be imported as they are said to be unavailable from domestic sources. The mineral tanning preparations are now entered free of duty under both Tariffs under tariff item 203a.

An important part of the synthetic organic tanning preparations of Recommended Item 32.03, known as syntans, are made mostly from phenol-, cresol-, or naphthalene-sulphonic acids and formaldehyde; others include alkylsulphonyl chlorides and resinic tanning products. Phenolsulphonic acids are now entered at rates of 15 p.c. and 20 p.c. under tariff item 711 and the Board is recommending rates of 10 p.c. and 15 p.c. in Recommended Item 29.07. Formaldehyde is now entered free of duty under tariff item 219b if it contains no more than fifteen per cent of alcohol and otherwise at rates of 25 p.c. under both Tariffs under tariff item 220a(ii) with special provisions for much higher rates where the alcohol content exceeds forty per cent; in Recommended Item 29.11 the Board is recommending rates of 5 p.c. and 10 p.c. for formaldehyde. In recent years Canadian consumption of syntans has been about \$300,000 annually, all of which was said to be imported though there is evidence of Canadian production of sodium formaldehyde naphthalene sulphonate. The syntans are now entered free of duty under both Tariffs under tariff item 203a.

The artificial bates of Recommended Item 32.03 are complex preparations based on materials such as enzymes, pancreatin or microbial diastases. They do not appear to be commercially significant in Canada. They are now entered at rates of 15 p.c. and 20 p.c. under tariff item 220a(i) if compounded of more than one substance and otherwise under tariff item 711. For them the Board recommends free entry.

Most of the products of Recommended Item 32.03 are not available from Canadian production; from published information it appears that they account for only about six per cent of the total materials used by Canadian tanneries. It seems therefore that the area is not one of great commercial importance. The Board is therefore recommending continued free entry where it now exists, with the exception of sodium formaldehyde naphthalene sulphonate now produced in Canada for which it recommends rates of 10 p.c. and 15 p.c.

Because part of tariff item 203 deals with certain vegetable materials not covered by Recommended Item 32.01 some portions of its contents would appear in Recommended Item R-5; this problem is discussed in connection with Recommended Item 32.04, where it arises again.

<u>Recommended Items</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
32.04 Colouring matter of vegetable origin (including dyewood extract and other vegetable dyeing extracts, but excluding indigo) or of animal origin:			
(1) Other than the following	Free	Free	Free
(2) Vegetable materials for use as edible colourings	10	10	25

32.05	Synthetic organic dyestuffs (including pigment dyestuffs); synthetic organic products of a kind used as luminophores; products of the kind known as optical bleaching agents, substantive to the fibre; natural indigo:			
	(1) Other than the following	Free	Free	10
	(2) Phthalocyanine pigment dyestuffs	Free	5	10
	(3) Quinacridone pigment dyestuffs	Free	5	10
	(4) Pigment dyestuffs, other than (2) and (3) above	10	15	25
32.06	Colour lakes	10	15	25
32.07	Other colouring matter; inorganic products of a kind used as luminophores:			
	(1) Other than the following	Free	5	15
	(2) "Deleted"			
	(3) Black polyethylene masterbatch	5	10	20
	(3A) Inorganic pigments other than those enumerated below in this item	10	15	25
	(4) Inorganic products of a kind used as luminophores	Free	Free	10
	(5) Lithopone	Free	12½	25
	(6) "Deleted"			
	(7) Titanium whites, not including pure titanium dioxide	Free	12½	25
	(8) Ultramarine	Free	10	15
	(9) Zinc grey	Free	12½	25
25.09	Earth colours, whether or not calcined or mixed together; natural micaceous iron oxides	Free	7½	20
32.08	Prepared pigments, prepared opacifiers and prepared colours, vitrifiable enamels and glazes, liquid lustres and similar products, of the kind used in the ceramic, enamelling and glass industries; engoves (slips); glass frit, in the form of powder, granules or flakes, but not other glass	10	15	25

These Recommended Items cover goods variously called colours, pigments, dyes, dyestuffs, colour lakes and other related names. Their market in Canada during 1964 was valued at some \$35 million of which only \$5 million, or about 15 per cent, was supplied from domestic

production. The latter consists mostly of inorganic pigments and provides between 80 and 85 per cent of the requirements of such pigments. Close to half of the total market consists of synthetic organic dyestuffs, all of which are imported. Nearly two-thirds of the imports in 1964, including all dyes, were entered free of duty, largely under tariff items 203b and 203c; most of the inorganic pigments are dutiable at $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under tariff item 246.

Because of their close relation, the products of Recommended Item 25.09 are dealt with after those of Recommended Item 32.07.

The colouring and dyeing extracts of vegetable origin of Recommended Item 32.04 are derived from woods, barks, roots, seeds or flowers of various plants and trees and are used mainly in the colouring of foodstuffs and in the dyeing of textiles and leather.

Of the products which would be included in paragraph (1) of Recommended Item 32.04, there follows a list of those which came to the Board's attention (in some cases described by the name of the product from which they are obtained) with the existing items of their present classification indicated in parentheses: alkenna (203), annatto (203), black cutch (203), Brazil wood (203), chlorophyll (203), cochineal (246 and 711), copper-chlorophyll (203), Cuba wood (203), fustic wood (203), henna (203), imitation vandyke brown (203), kermes (246 and 711), lac dye (246 and 711), Lima wood (203), logwood (203), madder (203), oenin (203), pernambuco wood (203), Persian berries (203), quercitron wood (203), safflower (*206), saffron (*206), sandalwood (203), sepia (246 and 711), sodium-chlorophyll (203), tampico wood (203) and turmeric (203). The rates are Free and Free under tariff item 203 and *206, $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under tariff item 246 and 15 p.c. and 20 p.c. under tariff item 711.

Of commercial importance in Canada are the extracts of turmeric, logwood, fustic and annatto seed. One firm in Canada makes a colouring extract from imported annatto seed and all its output is further processed into a food colouring for dairy products. Imports of vegetable colourings in the years 1960 to 1964 varied between \$550,000 and \$700,000 annually; they were valued at \$584,000 in 1964.

Colouring agents of vegetable origin for use in the dyeing of textiles and leather were reported not to be made in Canada. There is no known production of colouring agents of animal origin and their market does not appear to be commercially significant.

The vegetable materials for use as edible colourings of paragraph (2) of Recommended Item 32.04 are now entered under tariff *90f at rates of 10 p.c. and 10 p.c.; they are not within the scope of the Reference and by mere relocation for uniformity of nomenclature the Board is recommending continuation of the existing rates.

Thus the Board recommends continued rates of 10 p.c. and 10 p.c. in the case of vegetable materials for use as edible colourings and free entry for other colouring matter of vegetable origin or of animal origin.

The synthetic, organic colouring agents of Recommended Item 32.05 have almost replaced natural organic colouring substances. The synthetic organic dyes, frequently referred to as coal-tar dyes, are practically all obtained from aromatic chemical compounds such as benzene, toluene, xylene, naphthalene, acenaphthene anthracene and carbazole. They are used mainly for colouring or dyeing textiles, leather, plastics or other materials and, to a lesser extent, in the manufacture of prepared pigments, decorative and protective coatings, and printing inks. Although hundreds of thousands have been synthesized, less than one thousand types are currently in use throughout the world. Synthetic organic dyes are usually soluble in the medium in which they are used. They are not known to be made in Canada, at least on a commercial basis, and imports into Canada amounted to more than \$15 million in 1964, as compared to \$6 million annually in the immediate post-war years. Half of the requirements are supplied by the U.S.A., the other half, by West Germany, Switzerland and Britain. Despite the relatively large and growing market, the manufacture of synthetic dyes in Canada is, for a number of reasons, unlikely to materialize in the foreseeable future although it seems that the production of some types required in great volume might be economical.

The organic pigments are used principally in the manufacture of decorative and protective coatings and of printing inks. Although their consumption is less than that of synthetic dyes, some are nevertheless produced successfully on a commercial scale in Canada. Toluidine and lithol reds and benzidine yellows are among those made and sold at prices claimed by the manufacturers to be below those prevailing in the U.S.A. The principal types not made include phthalocyanine and quinacridone pigments. The use of phthalocyanine colours in 1961 was valued at \$494,000 and increased to \$681,000 in 1963. The quinacridone pigments used by the Canadian manufacturers in 1961 had a value of \$328,000.

Vat dyestuffs are not made in Canada. Their import in 1962 reached \$1.4 million and remained essentially unchanged in 1964.

Monosulphonic acid pulp and penta methyl pararosaniline pulp, both classified as synthetic organic dyestuffs, are used in the manufacture of methyl violet and alkali blue toners.

Organic luminophores, which, under the action of light rays, produce a luminescent or fluorescent effect, are added to colouring matters to increase their brilliance. Most are not colouring agents although some have the character of colouring matter. They are now known to be made in Canada.

Optical bleaching agents, or brighteners, are synthetic organic products which intensify the apparent whiteness of an article. They are not made in Canada and their production is unlikely because of the size of the Canadian market. Organic optical brighteners are used mainly in the manufacture of soaps, detergents, paper, textiles and plastics; imports amounted to about \$1.3 million in 1964 and came mostly from U.S.A., West Germany and Switzerland.

Natural indigo is difficult to distinguish from synthetic indigo and for this reason, it is classified with the synthetic product. The synthetic indigo has almost completely displaced the natural one.

The synthetic organic products described as dyestuffs, luminophores and as optical bleaching agents and the natural indigo of paragraph (1) of Recommended Item 32.05 would include the following products with their present tariff classification indicated in parentheses: aniline and coal tar dyes, in bulk, adapted for dyeing (203b), aniline salts (203), artificial alizarin (203), azoic coupling components and azoic diazo components mixed together, with or without surface-active agents or solvents (203f), chemical preparations, dry, compounded of more than one substance, for use exclusively in coating the inside of fluorescent lamps or electronic tubes (220d), indigo, indigo paste and extracts of indigo (203), masterbatches made up of any of the colouring materials of Recommended Item 32.05 (220a), pararosaniline pulps (203b), solutions of aniline dyes, with or without dissolving salts, adapted for dyeing, for use in Canadian manufactures (203c), synthetic organic dyestuffs, composed of two or more acids or salts (203a), synthetic organic luminophores, which may be synthetic resin plastic materials to which chemicals have been added (*246e) and synthetic organic optical bleaching agents, substantive to the fibre, in bulk (203b). The existing rates are Free and Free under items 203, 203a, 203b, 203c, 203f, 15 p.c. and 20 p.c. under 220a(i), Free and 5 p.c. under 220d and Free and Free under *246e. For these products the Board recommends free entry under both tariffs.

For the phthalocyanine and quinacridone pigments dyestuffs, not produced in Canada and now entered under tariff item 246 at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c., the Board recommends rates of Free and 5 p.c.

The other pigment dyestuffs of Recommended Item 32.05, their present tariff classification being shown in parentheses, would include: pigment dyestuffs with or without dispersing agents, whether or not in aqueous dispersions, for use in the coating, colouring or printing, of textiles (203d), solutions of pigment dyestuffs containing methyl alcohol for use in the colouring of coated surfaces (203g) and other pigment dyestuffs, with or without other ingredients, for colouring, when dry (246) and when liquid (220a). The rates of duty are Free and Free under tariff item 203d, 5 cts. per gallon under 203g, 15 p.c. and 20 p.c. under 220a(i) and $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under 246. For these products, produced in Canada, the Board recommends rates of 10 p.c. and 15 p.c.

Colour lakes of Recommended Item 32.06 are generally prepared from synthetic organic dyes or from colouring matter of animal or vegetable origin; imports are not listed separately but appear to be substantial, mostly from the U.S. If dry, colour lakes are now dutiable at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under tariff item 246; otherwise they may be entered at rates of 15 p.c. and 20 p.c. under tariff item 220a(i). The Board recommends rates of 10 p.c. and 15 p.c.

Synthetic inorganic pigments of Recommended Item 32.07 include white pigments such as extended titanium dioxide, basic silicate lead pigment and lithopone; mineral blacks, such as shale black or silica black; pigments other than white or black, the more important of which are chrome and zinc chromate yellows, chrome and molybdate oranges, chrome greens, Prussian blue and Turnbull's blue, and ultramarine. By far their largest use is in the manufacture of coatings

and printing inks. They are also used in the manufacture of floor and roof coverings, rubber, plastics, leather, cosmetics, and in the coating and colouring of textiles.

Except for basic silicate white lead which is made in small quantity, none of the white and black inorganic pigments is manufactured in Canada. Inorganic pigments usually account for about 80 per cent of the synthetic pigments made in Canada. The Canadian producers rely on imports for 60 per cent of the colouring materials they require, one-third of which is entitled to duty-free entry; the remainder is also duty-free under the British Preferential Tariff but subject to rates of 10, 12½ or 15 p.c. under the Most-Favoured-Nation Tariff. Canadian prices for inorganic pigments are close to or below the U.S. prices.

The Canadian requirements of inorganic pigments and luminescent agents were valued at approximately \$13 million in 1964. Two-thirds were imported, almost 90 per cent from the U.S.A. Luminescent agents for paints are not made in Canada; imports in 1964 were valued at \$1.6 million, practically all from the U.S.A. In general the imports of pigments are for types not made in Canada. The extended titanium dioxide pigment, by far the most important white pigment, originates only in the U.S. The principal black pigment used in Canada is carbon black, classified in Recommended Item 28.03. The artificial blacks of Recommended Item 32.07 do not appear to be of commercial importance. Black polyethylene masterbatch, a dispersion of 25 to 35 per cent of carbon black in polyethylene, is made in Canada and the producers were said to have adequate capacity to supply the Canadian market. It is imported in small quantity and its price is comparable to that in the U.S.A.

Basic lead silicate was named in paragraph (2) and pigments based on ferricyanides and ferrocyanides in paragraph (b) of item 32.07 as it appeared in Volume 1 of this Report. These two paragraphs were deleted, by the corrigenda published in Volume 3, and the new paragraph, (3A), was added; basic lead silicate, the pigments based on cyanides and many other inorganic pigments not named elsewhere are made in Canada. Apart from end-use items, the inorganic pigments of paragraph (3A) are now entered principally under item 243 at rates of 15 p.c., B.P. and 20 p.c., M.F.N. or under item 246 at rates of 12½ p.c., B.P. and 17½ p.c., M.F.N. For these inorganic pigments the Board recommends rates of 10 p.c. and 15 p.c.

For the black polyethylene masterbatch, now subject to entry under tariff item 220a(i) at rates of 15 p.c. and 20 p.c. or end-use item 921 free of duty, also made in Canada but imported in very small quantity, rates of 5 p.c. and 10 p.c. are recommended.

The inorganic products of a kind used as luminophores, 90 per cent of which are imported, their present tariff classification being indicated in parentheses, include: calcium tungstate and magnesium tungstate specially manufactured (*246e), inorganic products containing radio-active salts (*246e), inorganic products made luminescent by the action of visible or invisible radiation such as zinc sulphate or zinc sulphide (220d when activated by silver or copper and zinc-beryllium silicate and *246e when activated by manganese). The existing rates are Free and 5 p.c. under 220d and Free and Free under 246e. For these luminophores the Board recommends free entry under both Tariffs.

For lithopone, now subject to entry under tariff item 242 at Free and $12\frac{1}{2}$ p.c., the Board recommends continuation of these rates.

For titanium whites, competitive to some extent with the pure titanium dioxide of Recommended Item 28.25, and now subject to entry under tariff item 203d free of duty or 242 at Free and $12\frac{1}{2}$ p.c., the Board recommends rates of Free and $12\frac{1}{2}$ p.c. as in the case of pure titanium dioxide.

For ultramarine, now dutiable at rates of Free and 10 p.c. under tariff item 240 or entered free of duty under end-use item 203d, the Board recommends also the continuation of the same rates, Free and 10 p.c. For all other inorganic colouring matter, the Board recommends rates of Free and 5 p.c.

For zinc grey, as for lithopone, now subject to entry under tariff item 242 at Free and $12\frac{1}{2}$ p.c., the Board recommends continuation of these rates.

The earth colours of Recommended Item 25.09 exclude those containing 70 per cent or more by weight of combined iron evaluated as Fe_2O_3 , for which provision is made in Recommended Item 28.23. In the Summary and Conclusions of Recommended Item 28.23 there is a short discussion of problems of nomenclature under the Board's recommendation and under the existing tariff.

Earth colours of Recommended Item 25.09 and natural iron oxides are used in paints, enamels and other similar goods. The most important are the ochres, siennas and umbers. The production of natural iron oxide pigments in Canada continued at a low rate in 1964. Much of the output is exported to the U.S.A. and there are imports from the U.S.A. Earth colours and natural iron oxides are now subject to rates of 5 p.c. and $12\frac{1}{2}$ p.c. under tariff item 245 and rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under tariff item 246. The Board recommends rates of Free and $7\frac{1}{2}$ p.c.

In Recommended Item 32.08 the Board has modified the existing Brussels text to change the final words from "glass frit and other glass, in the form of powder granules and flakes" to become "glass

frit, in the form of powder, granules or flakes but not other glass"; this was designed to exclude forms of glass not related to colourings for which provision is made elsewhere in the Customs Tariff.

There is only one known Canadian manufacturer of colouring preparations of Recommended Item 32.08 used in the ceramic and glass industries and in the coating of metal articles. The market for these products in Canada appears to be of the order of \$4 million annually. Imports in 1964 were about \$1.8 million, 84 per cent from U.S.A. and most of the remaining 16 per cent from Britain. The products in issue include the ceramic colours of tariff item 246b subject to rates of Free and 20 p.c., the finely divided metals of tariff item 246c subject to free entry under both Tariffs, glass frit now subject to entry under tariff item 711 at rates of 15 p.c. and 20 p.c. and the other colours of Recommended Item 32.08 variously entered under tariff item 246 at 12½ p.c. and 17½ p.c., 220a(i) at 15 p.c. and 20 p.c., 247 at 17½ p.c. and 20 p.c. or 249 at 15 cts. per gallon plus 5 p.c. and 15 p.c. The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
32.09 Varnishes and lacquers; distempers, prepared water pigments of the kind used for finishing leather; paints and enamels; pigments in linseed oil, white spirit, spirits of turpentine, varnish or other paint or enamel media; stamping foils; dyes in forms or packings of a kind sold by retail:			
(1) Other than the following	10	15	25
(2) Pearl essence, natural or synthetic	Free	Free	10

This Recommended Item relates mainly to decorative or protective surface coatings and finishes and related products. It would include varnishes, lacquers, paints, enamels and distempers which form a great part of the products of the paint and varnish industry; it would also apply to pigments intimately dispersed in paint or enamel media, to water pigments used for finishing leather, to stamping foils, to pearl essence and to dyes in forms or packings of a kind sold by retail. Excluded are products such as nail varnishes, hair dyes, metallic foils produced by rolling or hammering, artists' and students' colours and printing inks.

In 1963, the estimated Canadian market for the products under consideration exceeded \$175 million, 97 per cent of which was supplied by domestic production. Imports were valued at \$5.5 million and exports at \$900,000.

In the same year, the paint and varnish industry included 128 firms operating 145 plants distributed throughout Canada, but chiefly in Ontario and Quebec. Sales of all products rose from \$108 million in 1954 to \$172 million in 1963.

The manufacture of decorative and protective coatings does not require complex and expensive equipment. The majority of materials used are purchased but some are produced captively. The cost of materials is about 50 per cent of the value of sales and 63 per cent of the materials used consist of chemicals and related products, one-third of which are imported, some free of duty but the greater portion subject to rates of 15 to 20 per cent. While the gross margin realized over the cost of goods is a considerably higher percentage of net sales than in the Canadian manufacturing industry in general, the net profit on sales, apparently owing to competitive selling expenses, in most years has been below the national average; however the average return on net worth or shareholders' equity appears to have been comparable with that prevailing in manufacturing generally.

The market for decorative and protective coatings consists of trade sales, 60 per cent, and industrial sales, 40 per cent. For trade sales the products are usually packaged for retail and sold through intermediates to the general public, painters and painting contractors. Generally, international trade in trade-type products is not economically feasible. Industrial sales, which face greater competition, are made directly to industrial users. The products are often made to meet the requirements of individual customers. The domestic market is said to be highly competitive. In their pricing policies producers take little advantage of the existing tariff and, on the average, prices in Canada are comparable to those in the U.S.A.

In recent years more than 95 per cent of the imports have originated in the U.S.A. The tendency of foreign subsidiaries, in acquiring coatings, to use specifications developed by the parent companies is probably one of the principal reasons for continued importations.

For natural and synthetic pearl essence, the total market in Canada is about \$125,000 of which 25 per cent is for the natural product. The synthetic pearl essence does not appear to be made in Canada. The natural pearl essence is produced but said to be not obtainable by the Canadian users since most of the domestic production is exported.

The goods of paragraph (1) of Recommended Item 32.09, with their present tariff classification indicated in parentheses, would include: aluminum paste (220a(i)), black japons (249), bronze paste (220a(i)), distempers consisting of colouring pigments and a binder (246), dyes in forms or packings, of a kind sold by retail normally consisting of colouring matter with other substances (246), flushed colours (247), gold liquid paint (251), paints, varnishes and lacquers (non-alcoholic paints in 247, non-alcoholic varnishes and lacquers in 249 and alcoholic paints, varnishes and lacquers in 248), pigment dispersions (220a(i), 247, 904, 911), pigments ground in alcohol (248), pigments in turpentine or white spirits (220a(i)), pigments other than white lead, ground in oil (247), preparations containing water pigments,

for finishing leather (*252), prepared water pigments (247), solutions of dyes containing methyl alcohol, for colouring coated surfaces (203g), solutions, other than collodions, of esters or ethers of cellulose in volatile organic solvents (when the weight of the solvent exceeds 50 per cent but not 60 per cent of the weight of the solution in 909c and when the weight of the solvent exceeds 60 per cent of the weight of the solution in 248, 249 or 911), solutions of synthetic resin in volatile organic solvents (when the weight of the solvent exceeds 50 per cent but not 60 per cent of the weight of the solution in 901c and when the weight of the solvent exceeds 60 per cent of the weight of the solution in 248, 249 or 904), stamping foils (246), white lead ground in oil (244), whitening for cleaning footwear (*252). The existing rates of duty are 5 cts. per gallon under 203g, 15 p.c. and 20 p.c. under 220a(i), 20 p.c. and 25 p.c. under 244, $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under 246, $17\frac{1}{2}$ p.c. and 20 p.c. under 247, 75 cts. and 85 cts. per gallon under 248, 15 cts. per gallon plus 5 p.c. and 15 p.c. under 249, 15 p.c. and $22\frac{1}{2}$ p.c. under 251, $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c. under *252, $12\frac{1}{2}$ p.c. under 901(c), 15 p.c. under 904, 10 p.c. under 909(c) and 10 p.c. under 911. The pearl essence of paragraph (2) of the Recommended Item is entered for general use when non-alcoholic under tariff item 247 at $17\frac{1}{2}$ p.c. and 20 p.c. and when alcoholic under tariff item 248 at 75 cts. and 85 cts. per gallon and free of duty for the manufacture of imitation pearls under 247b and for the manufacture of plastic products under 921; most imports of pearl essence are entered free of duty under the existing end-use provisions.

On the more than \$4 million of dutiable imports of goods in this Recommended Item, the average rate of duty was 18 p.c..

For all the products of the Recommended Item, except pearl essence, the Board recommends rates of 10 p.c. and 15 p.c. and for pearl essence, natural or synthetic, it recommends free entry under the British Preferential and Most-Favoured-Nation Tariffs.

Recommended Item

B.P. M.F.N. G.T.

32.10 Artists', students' and signboard painters' colours, modifying tints, amusement colours and the like, in tablets, tubes, jars, bottles, pans or in similar forms or packings, including such colours in sets or outfits, with or without brushes, palettes or other accessories:

(1) Other than the following	Free	15	25
(2) Water colours, in liquid or powder form, in jars, bottles or tins	10	15	25

Although there are understood to be half a dozen manufacturers of the products of Recommended Item 32.10 in Canada, it appears that only one is engaged in their manufacture on a significant scale. This company makes water colours in liquid and dry powder forms sold in jars

and tins ranging in size from one to 128 ounces but does not manufacture oil colours, nor does it package the water colours in fitted boxes.

The goods in the Recommended Item include artists', school children's and signboard painters' colours and fitted boxes containing artists' and students' colours, all subject to entry under tariff item 247a(1) at rates of Free and 15 p.c.; also included would be such colours in sets or outfits, with or without brushes, palettes or other accessories which are not provided for in existing item 247a(1) and which would now be entered under tariff item 711 at rates of 15 p.c. and 20 p.c.

Imports of the goods under consideration have averaged \$1.1 million per year recently and are estimated to supply between 75 and 80 per cent of the market. The principal Canadian producer complained of the competition it experienced from Britain under tariff item 247a(1). About 43 per cent of the imports come from Britain and consist, in part, of the fitted boxes which are not produced in Canada. Most of the imports are subject to tariff item 247a(1) with rates of Free and 15 p.c.

The Board recommends rates of 10 p.c. and 15 p.c. for water colours in jars, bottles or tins and rates of Free and 15 p.c. for all other products of Recommended Item 32.10.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
32.11 Prepared driers	10	15	25

Prepared driers accelerate the drying of certain paints and varnishes. They are made in Canada both for commercial sales and captive use. The total value of requirements in 1963 was about \$1 million and imports are believed to be small, mostly from the U.S.A.

Liquid driers are entered under tariff item 249 at combined specific and ad valorem rates equivalent to 9 per cent and 18 per cent. Paste and solid driers are subject to rates of 15 p.c. and 20 p.c. under tariff item 220a(i) and liquid driers to compound rates of 15 cts. per gallon plus 5 p.c. and 15 p.c. under tariff item 249.

Imports do not appear to be a serious threat to the Canadian producers because the landed prices of British driers are slightly higher than those of comparable Canadian driers and, by and large, the Canadian prices for these products are lower than in the U.S.A.

The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
32.12 Glaziers' putty; grafting putty; painters' fillings, and stopping, sealing and similar mastics, including resin mastics and cements:			
(1) Other than the following	10	15	25
(2) Mastics based on rubber	15	20	27½
(3) Sealing wax, n.o.p.	15	22½	25

The products of Recommended Item 32.12 differ widely in their composition and are essentially characterized by the uses to which they are put. They may be manufactured from natural materials, synthetic materials or from mixtures of materials; most likely, by companies associated with the paint and varnish industry or producers of chemicals and related products.

It is estimated that in 1964 the Canadian output of the products under consideration was valued at about \$5 million. Imports amounted to \$2.4 million and exports were negligible. Consumption thus would be approximately \$7.5 million annually.

The preparations of Recommended Item 32.12 include a variety of products entered under various items. There are the mastics based on glycerol, magnesium oxychloride, sodium silicate, sulphur, zinc oxide or zinc oxychloride entered under tariff item 904 at rates of 15 p.c. if they contain synthetic resin and otherwise (except for those based on rubber) under tariff item 220a(i) or 711 at rates of 15 p.c. and 20 p.c., mastics based on oil or plaster entered under tariff item 711 at rates of 15 p.c. and 20 p.c., painters' fillings entered under tariff item 247 when liquid at rates of 17½ p.c. and 20 p.c. and under tariff item 246 when dry at rates of 12½ p.c. and 17½ p.c., putty entered under tariff item 253 at rates of 17½ p.c. and 22½ p.c. and resin mastics and cements, sealing compounds, sealers and sealants (other than sealing wax) entered under tariff item 220a(i) or 711 at rates of 15 p.c. and 20 p.c. when containing natural resin and under tariff item 903 at 15 p.c. and 17½ p.c., 904 at 15 p.c. or 911 at 10 p.c. when containing synthetic resin. For all of these products the Board is recommending rates of 10 p.c. and 15 p.c.

For conformity of nomenclature the Board is recommending the mere relocation, at existing rates, of two categories of products not included within the present Reference: mastics based on rubber now entered under tariff item *618 at rates of 15 p.c. and 20 p.c. and sealing wax, n.o.p., (other than the forms enumerated in Recommended Item R-16) now entered under tariff item *224 at rates of 15 p.c. and 22½ p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
32.13 Writing ink, printing ink and other inks	10	15	25

Inks of all types are included in the present Recommended Item. Excluded are the refills for ball point pens which consist of the ball point and ink reservoir.

In 1964, there were 36 plants in Canada engaged principally in the manufacture of printing inks while 10 firms made writing inks, four on a large scale, the others as a minor activity. In that year, shipments of printing inks were valued at more than \$22 million, imports at \$2.1 million and exports at \$45,000. The market was thus in excess of \$24 million, 90 per cent supplied by domestic production. Most imports originated in the U.S.A.

The Canadian market for writing inks has increased from some \$600,000 in 1954 to \$900,000 in 1964; however the imports have increased more rapidly with the result that the Canadian manufacturers supplied 86 per cent of the market in 1954 as compared to 72 per cent in 1964. Approximately 75 per cent of the imports came from the U.S.A.

Printing inks for the decoration of textiles are similar to typographic inks but are specially designed for printing on fabrics. Most of the colouring materials now imported for the colouring or printing of textiles are in the form of pigments or dyes rather than inks and it is difficult to determine with any degree of certainty the value of the printing inks imported for that purpose. Imports of pigments and inks for the colouring or printing of textiles were valued at \$146,000 in 1964 and were entered free of duty under tariff item 203d.

Of the products in this Recommended Item, carbon paper ink, liquefied and applied to produce carbon paper, is now entered under tariff item 220a(i) at rates of 15 p.c. and 20 p.c., ink adapted for colouring textiles under 203d free of duty, inks for hectographic and duplicating machines under 256 at 12½ p.c. and 15 p.c., inks for typewriter ribbons also under 256, invisible ink under 220a(i) (rates above), meat printing ink under 248 at 75 cts. and 85 cts. per gallon, printing ink under 256 (rates above), rotogravure ink under 256a at 12½ p.c. and 17½ p.c., solid ink in stick form heated in the apparatus and imprinted on ribbon under 256 (rates above), stencil ink for use as a solid colour coating on containers under 220a(i) (rates above), stencil ink in aerosol containers to mark containers with the aid of stencils under 247 at rates of 17½ p.c. and 20 p.c., white ink for cable identification also under 247 and writing ink under 257 at rates of 15 p.c. and 20 p.c.

For all the inks of Recommended Item 32.13, the Board recommends rates of 10 p.c. and 15 p.c.

Recommended ItemB.P. M.F.N. G.T.

34.02	Organic surface-active agents, surface-active preparations and washing preparations, whether or not containing soap	10	15	25
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Surface-active agents -- commonly known also as surfactants -- are organic compounds which, when dissolved in water, alter its surface tension to give greater detergent effect to the solution. Synthetic detergents -- often called syndets -- are materials which have a cleansing action like soap but are not derived directly from fats and oils.

This Recommended Item would encompass organic surface-active agents (surfactants), surface-active preparations (detergents) and washing preparations; they are used for household and industrial cleaning purposes. The surfactants form the basic raw material for detergents; because they are largely produced for captive use, published data on production and consumption are not generally available. The value of the annual consumption of surfactants in Canada is about \$40 million and that of detergents and washing preparations, about \$100 million.

Organic Surface-Active Agents

Those surfactants that are single chemically defined substances fall in the various Recommended Items from 29.01 to 29.45; those that are not chemically defined substances belong in this Recommended Item. In addition to household use surfactants have many and varied industrial uses for which they are usually sold in bulk as opposed to household detergents which are sold in small retail packages. The principal raw materials are generally obtainable from Canadian sources. A great number of firms, large and small, are engaged in the production of surfactants. Nine companies, producing about 75 per cent of Canadian surfactant production, in a joint submission, estimated Canadian production of surfactants to have been about 80 million pounds in 1959; those produced by companies that also make soaps and detergents form the major part and are used captively; consequently published production data are not readily available, though production in 1964 has been estimated at 122.6 million pounds valued at \$30.6 million. The industry said that it suffered from small scale, lack of vertical integration, high cost of transportation and distance from source of raw materials and from certain markets when compared with the industry in the U.S.A.; these factors were said to raise cost of production by 15 to 20 per cent. This figure is difficult to ascertain; the recent change by some companies, from a batch process to a continuous process, made economical by the increase in the size of the market, should diminish this cost differential. Consumption has grown considerably in the last eight years and from 1958 to 1964 the proportion met by domestic production rose from 73 per cent to 78 per cent of the total market. The major part of imports is for use in the industrial field rather than in that of household detergents. In volume, imports in 1964 were 87 per cent from the U.S.A. and 11 per cent from Britain. Exports are small.

The surfactants of this Recommended Item are now entered under a number of tariff items: alkyl aryl sulphonate amine salts, alkyl benzene sodium sulphonate, alkyl benzene sulphonic acid salts, fatty acid diethanolamide, polyethylene glycol esters, salts of fatty amines and water soluble naphthenates and sulphonaphthenates under tariff item 208t at Free and 15 p.c. when chemicals of a kind not produced in Canada, otherwise under tariff item 711 at rates of 15 p.c. and 20 p.c.; alkylsulphates of substituted benziminazoles, alkylsulphonates, dodecyl benzene sulphonate, fatty quaternary imidazolinium salts, fluoroaromatic sulphonamides, fluorochemical surface-active agents, lauric monoethanolamide, linear alkylate sulphonates, oleic diethanolamide, oleic monoethanolamide, quaternary ammonium salts, sodium alkyl naphthalene sulphonate, sodium lauryl sarcosinate, sodium lauryl sulphoacetate, sulphoricinoleates, sulpho-oleates, sulphoresinates, sulphonated derivatives of substituted benziminazoles, sulphonation products of fatty alcohols, of fatty esters, of fatty acids and of fatty amides and products of the condensation of fatty alcohols, of fatty acids or of alkylphenols with ethylene oxide and similar non-ionic products are under tariff item 208t at Free and 15 p.c.; aminocarboxylic acids are under tariff item 216 at Free and 15 p.c.; petroleum sulphonates of alkali metals, of ammonium and of ethanolamines as well as sulphonated oils are under tariff item *277 at rates of 15 p.c. and 20 p.c.; ammonium lauryl ether sulphate, coconut oil diethanolamide, coconut oil monoethanolamide, dodecyl benzene sulphonic acid, ethoxylated alkyl phenols, ethoxylated nonyl phenols, ethoxylated oxo-alcohols, fatty alcohol ethylene oxide condensate, lauric diethanolamide, lauric di-isopropanolamide, sodium lauryl ether sulphate, sodium lauryl sulphate, sodium toluene sulphonate and sodium xylene sulphonate are under tariff item 711 at 15 p.c. and 20 p.c.; surface-active agents of a kind not produced in Canada when used in the manufacture of plastic products are entered free of duty under tariff item 921; surfactants are also entered free of duty under end-use items 791 (Recommended Item R-35) and 851 which would remain unchanged. The rate proposals for the surfactants of this Recommended Item were largely for rates of 15 p.c. and 20 p.c. on the basis of Canadian manufacture or competitiveness with Canadian-made products, raw material costs, scale of production, import competition, and the fact that many foreign competitors make their own raw materials.

Surface-Active Preparations and Washing Preparations

The subject matter of this part is mixtures and preparations based on surfactants and washing and cleaning compounds. Soap and preparations in which soap is the predominant agent are not considered because soap is not encompassed within this Reference. The mixtures and preparations of surfactants are known as synthetic detergents. The washing and cleaning preparations are based on such products as sodium carbonate decahydrate (washing soda), sodium metasilicates and sodium borates or on detergents and spotters such as benzene soaps, petroleum sulphonates, synthetic sulphonate or light soaps; they include also the blended alkalis used for washing milk bottles. All these products have a combined market valued at about \$100 million, more than 60 per cent for retail. In 1962, 137 firms were engaged in the manufacture of the products under consideration. The preparations of this Recommended Item include blended alkalis entered, when containing soaps but no abrasives under tariff item *228(ii) at 15 p.c. and 20 p.c., when not containing soaps or abrasives under tariff item

220a(i) at 15 p.c. and 20 p.c. and when containing abrasives under tariff item *252 at $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c.; washing and cleaning preparations containing surface-active agents and soap entered, when not containing abrasives under tariff item *228(ii) at 15 p.c. and 20 p.c. and when containing abrasives under tariff item *252 at $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c.; some of the preparations are entered free of duty under tariff item 791 (Recommended Item R-35) and 851 which would remain unchanged. Four producers, estimating that they supplied some 90 per cent of the domestic market, sought continued rates of 15 p.c. and 20 p.c. urging higher domestic costs of raw materials and packaging, of transportation and of advertising; they represented raw materials to be 20 per cent to 35 per cent higher in cost than in the U.S.A. and packaging material to be 8 per cent to 45 per cent higher. They also urged the effects of smaller scale of production. Imports under the British Preferential Tariff have not been a significant factor. The Canadian producer has certain advantages arising from location.

For all the products of this Recommended Item the Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Items</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
36.01 Propellant powders:			
(1) Other than the following	Free	Free	Free
(2) Black powder	5	10	20
36.02 Prepared explosives other than propellant powders:			
(1) Other than the following	10	15	25
(2) Based on ammonium nitrate	5	10	20
(3) Based on chlorates and perchlorates	5	10	20

These two Recommended Items would cover commercial explosives but would exclude finished ammunition products such as shotgun shells and cartridges, signals, fusees, fireworks, etc. and munitions of war.

Propellents are of two principal types, black powders and smokeless powders. Black powders have been known for at least 700 years and made in Canada since 1855. Their use is declining because of a growing preference for smokeless powders. Some forms find an application in prepared blasting agents.

Smokeless powders are not made in Canada and there is little likelihood that they will be in the foreseeable future because of the limited market.

The prepared explosives other than propellant powders are made in Canada in various types and forms. They include the nitroglycerin-type explosives or dynamite, the ammonium nitrate fuel

oil mixtures (AN/FO) and the blasting slurries. In the trade, the AN/FO and slurry explosives are commonly known as blasting explosives or blasting agents.

Nitroglycerine, discovered in 1847, rapidly displaced black powder after means of improving its safety and reliability were found and it dominated the commercial explosives field. However, the development in the last decade of non-nitroglycerine explosives now makes it appear that before very long the AN/FO and slurry-type explosives will capture seventy-five per cent of the market. AN/FO, a mixture of roughly 94% ammonium nitrate and 6% fuel oil, is now the most important non-nitroglycerine explosive; its cost is a third or even less than that of nitroglycerine-based explosives. The slurry type is still under development. Blasting slurries consist generally of a mixture of ammonium nitrate, TNT and water together with minor amounts of other ingredients.

Explosive mixtures based on chlorates or perchlorates are frequently used as blasting agents.

Altogether more than 100 variations, grades and trade names of explosives and ammunitions are made in Canada. Because of the hazards involved in transportation, the tendency has been to locate plants nearer the centres of consumption. The explosives industry is well distributed geographically. However, there are no explosives manufacturing plants in the four Atlantic provinces. The capacity of the industry is sufficient to produce three times the required nitroglycerin explosives and all the present and foreseeable future needs of AN/FO and slurry explosives.

The present Canadian market for commercial explosives is 250 million pounds a year valued at \$36 million, sixty per cent in mining and quarrying, most of the balance in heavy construction. Ontario and Quebec account for three-quarters of the market.

The market for black powder as a propellant is no longer significant and in 1962 represented less than half of one per cent of the total usage of explosives in Canada. The requirements for smokeless propellant powders are about 500,000 pounds valued at \$500,000, almost all imported from the U.S.A.

It is estimated that eighty to ninety per cent of the imports of explosives into Canada originates in the U.S., the remainder chiefly from Britain and France. There are exports from Canada. They fluctuate from year to year and occasionally provide a net export balance of trade in explosives.

Prices of Canadian explosives have traditionally been low enough to compete with those in the U.S.A. even at locations close to the border. Selling prices of nitroglycerin explosives in Western Canada are higher than in Ontario and Quebec because of higher cost of materials.

Commercial explosives of Recommended Items 36.01 and 36.02 are classified in tariff items 666, 667 and 668 at specific rates. These tariff items have not changed since 1906 and cover some products which are either not known or important today. The propellant powders

of Recommended Item 36.01 may be divided into smokeless powders and black powder; the smokeless powders based on nitrocellulose and glycerine are now entered, in powder form, under tariff item 668 at rates of 2¢ and 2 $\frac{3}{4}$ ¢ per pound and in other forms such as cords, sticks, disks, tubes or flakes, under tariff item 666 at rates of 1 $\frac{3}{4}$ ¢ and 2 $\frac{1}{4}$ ¢ per pound; black powder is entered as blasting and mining powder under tariff item 667 at 1-1/3¢ and 1 $\frac{3}{4}$ ¢ per pound and as cannon, musket, rifle, gun, sporting and cannister powder under tariff item 668 at 2¢ and 2 $\frac{3}{4}$ ¢ per pound. The prepared explosives, other than propellant powders, of Recommended Item 36.02 are all entered under tariff item 666 at 1 $\frac{3}{4}$ ¢ and 2 $\frac{1}{4}$ ¢ per pound; paragraph (2) includes those based on ammonium nitrate, paragraph (3), those based on chlorates and perchlorates and paragraph (1), those based on ethanediol dinitrate, glycerol trinitrate, hexanitrodiphenylamine, lead azide, lead styphnate, mannitol hexanitrate, mercury fulminate, methyltrinitrophenyl-nitramine, nitroguanidine, nitronaphthalenes, pentaerythritol tetra-nitrate, tetracene, tetranitroaniline, trimethylenetrinitramine, tri-nitroaniline, trinitroanisole, trinitrobenzene, trinitro-m-cresol, tri-nitrophenetole, trinitrophenol, trinitrotoluene and trinitroxylene.

The ad valorem equivalent of the specific rates of tariff items 666, 667, 668 varies according to prices. Most imports appear to be of the relatively higher-priced types of explosives and propellant powders and are entered at ad valorem equivalent rates of 4 p.c. to 10 p.c. on the average. Imports of lower-priced explosives are restricted by the transportation costs and regulations, by the location of Canadian plants, and presumably by the specific rates which, in some cases, are equivalent to as much as 40 per cent ad valorem.

For the propellant powders of Recommended Item 36.01 other than black powder, the Board recommends free entry and for black powder, rates of 5 p.c. and 10 p.c. For the prepared explosives other than propellant powders of Recommended Item 36.02, the Board recommends rates of 5 p.c. and 10 p.c. when based on ammonium nitrate or on chlorates and perchlorates and rates of 10 p.c. and 15 p.c. on other types.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
37.08 Chemical products and flash light materials, of a kind and in a form suitable for use in photography	10	15	25

This Recommended Item would provide for photographic chemicals and preparations used at three different stages of the process of producing photographs: 1) emulsions which are required to render photographic film paper and glass capable of receiving images, 2) combustible flash powders once used in the actual taking of pictures but now understood to be obsolete, and 3) products such as developers, fixers, intensifiers and reducers, toners and clearing agents used in the processing of exposed film and the production of finished prints. Excluded are auxiliary products such as glue, retouching paints, flashbulbs, and any of the chemicals, regardless of packaging

and labelling, which are classified in Recommended Items 28.49 to 28.52. Single substances would be classified here only when they are flash-light materials, are put up in quantities in which they will be used in photography or are in retail packings with an indication that they are ready for use in photography.

Emulsions are produced at Toronto for captive use by Canadian Kodak Company Limited and goods of the third category mentioned in the preceding paragraph are made by Vac Incorporated, Montreal, with distribution points in Montreal, Ottawa, Toronto and Vancouver. Small quantities of photographic chemicals may be manufactured in Canada by other companies.

There are no published data on the size of the Canadian market for photographic chemicals. Estimates vary between \$6 million and \$12 million annually. However statistics on imports are available since 1964. They were then valued at almost \$4.5 million, principally from U.S.A. but also in smaller amounts from Britain, Germany, Belgium and Luxembourg.

The Canadian market is centred in Ontario and Quebec. Vac Incorporated, the only firm to make representations to the Board, stated that it had no interest in emulsions and flash-light materials and that, because of limited market, a few products could not be produced economically and had to be imported.

The photographic preparations of this Recommended Item include a wide variety of products otherwise entered under a number of tariff items: aluminum foil at Free and 30 p.c. under *353(f) or free of duty under *353(h); aluminum powder at Free and 27½ p.c. under *353(g); ammonium persulphate, catechol, hydroquinone, magnesium powder, mercuric chloride, potassium alum calcined, potassium dichromate, potassium persulphate and pyrogallol at Free and 15 p.c. under 208t; emulsions of collodion and iodizers for collodion at 15 p.c. and 17½ p.c. under 761; flash-light materials and photographic preparations which are mixtures of two or more substances, at 15 p.c. and 20 p.c. under 220a(i) or at the varying rates of 220a(ii); magnesium foil and sodium sulphate at 15 p.c. and 20 p.c. under 711; potassium alum not calcined at Free and 10 p.c. under 212; sodium metabisulphite, sodium sulphide and sodium sulphite at Free and 12½ p.c. under 210; sodium thiosulphate, anhydrous at Free and 15 p.c. under 208t and other than anhydrous at 15 p.c. and 20 p.c. under 711.

Vac Incorporated indicated that the products in which it is interested are all dutiable under tariff item 220a(i) at rates of 15 p.c. and 20 p.c. and proposed the continuation of the existing rates or, as an alternative, access to the U.S. market from which it is now excluded by high tariffs.

Prices in Canada are set to compete with imports from U.S.A. Cost comparisons are not available to assess the tariff protection needed.

Some products of tariff item 761 would be classified in Recommended Item 37.08. Since they are used in a process now said to be obsolete, they raised no interest and it was suggested that the item might be deleted.

The Board recommends rates of 10 p.c. and 15 p.c. for the products of Recommended Item 37.08.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.02 Animal black (for example, bone black and ivory black), including spent animal black	Free	Free	*Free

This Recommended Item would provide for products obtained by reducing materials of animal origin to charcoal. The most important is bone black, also known as animal charcoal or bone char. Others include blood black, ivory black and blacks derived from leather, horns, hooves and tortoise-shells. Excluded are carbon black, anthracene black, acetylene black and lamp black of Recommended Item 28.04.

There is no known Canadian manufacture of the products under consideration. Imports are valued at somewhat less than \$400,000 annually, about 95% of which is from the U.K. for use in sugar-refining, most of the remainder being from the U.S.A. for pigments and inks.

Blood black, hoof black, horn black, leather black and tortoise-shell black are now entered under tariff item 711 at 15 p.c. and 20 p.c.; bone black and ivory black are entered free of duty under tariff item 239; animal charcoal for use in the refining of sugar is entered under end-use item 689 at rates of Free and 25 p.c.

Provision is made in paragraph (2) of Recommended Item 31.00 for the free entry of the charred bone now entered free of duty under tariff item 662.

Imports of bone black for use in sugar-refining are subject to tariff item 689 and proposals by an exporter to Canada and one of the main importers were for the retention of the present rates. Imports of bone black and ivory black are now free of duty under tariff item 239 and continuation of duty-free entry was urged by the paint industry.

Because the bone black or animal charcoal of British origin is said to be superior to that of other sources, the Board does not see the necessity of perpetuating the M.F.N. rate of 25 p.c. under end-use tariff item 689. It recommends free entry under all Tariffs for all the products of Recommended Item 38.02.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.03 Activated carbon (decolourising, depolarising or adsorbent); activated diatomite, activated clay, activated bauxite and other activated natural mineral products:			

38.03
(Cont'd)

(1) Other than the following	Free	Free	Free
(2) Activated clay	10	15	25

In the context of this Recommended Item carbon or mineral substances are said to be "activated" when their structure is modified to make them useful for certain purposes. Some of the resulting products are highly porous, with a marked capacity for adsorption which makes them suitable as chemical adsorbents, catalysts or iron ex-changers; others of lower porosity are suitable as filtering agents.

Activated bauxite is used chiefly as a catalyst, a dessicant and a decolourising agent. It is not made in Canada and is entered free of duty as alumina under tariff item *211 outside the terms of Reference 120. Imports of activated alumina, which would be classified in Recommended Item 28.20, in 1963 were valued at \$130,000.

Activated carbon is derived from the destructive distillation of wood or other vegetable or carbonaceous matter; it is used chiefly for decolourising and removing other impurities from liquids when obtained from light woods and lignites; when originating from medium dense woods and shells it is used for vapour and solvent recovery and when from very dense woods, for gas-masks and toxic vapour adsorption and as a catalyst support. Imports of activated carbon in 1963 were valued at \$850,000, mostly from the U.S.A. The product does not appear to be made in Canada and may be entered free of duty under tariff item 238.

Activated diatomite is of minor commercial importance and not made in Canada. It is used for filtering purposes during the processing of products such as chemical or pharmaceutical preparations, sugar, glucose and beverages. It may be entered free of duty under tariff item *297 which is not within the scope of Reference 120. No statistics are available on this product.

Activated clays or earths are made in Canada by one producer located in Winnipeg, Manitoba. They are used by the oil refineries, by the re-refiners of used lubricating oils, by the manufacturers of vegetable, salad and cooking oils and by the soap manufacturers. The alkaline type finds its main applications as emulsifier and suspension and agglomeration agent in the production of polishing and cleaning preparations and for improving foundry sands and drilling sludge; the acid type is used chiefly for the decolourising of oils, fats and waxes. Natural clays are sold for pelletizing cattle and poultry feeds but these constitute a small proportion of the sales of the Canadian producer.

The total Canadian market for activated clays is estimated at some 4,500 tons a year; the main areas of consumption centre around Toronto, Montreal and Hamilton. Imports for the refining of oils in 1964 were about 2,850 tons valued at \$419,000, all from the U.S.A. The annual capacity of the Canadian producer was reported at 12,000 tons.

One-half to as much as two-thirds of the output of the Canadian producer is exported to the U.S.A., mostly to the northern

part of that country. These exports are subject to a duty equivalent to 17 per cent ad valorem. There are no exports to countries outside North America because of transportation costs.

Price statistics on activated clays are not available although a price of \$40 per ton, f.o.b. works was indicated for large tonnage transactions. Competition and the replacement of activated clay by hydrogen in the refining of oil tend to bring a decline in price.

Imports of activated clay are practically all from the U.S.A. and, including those of some catalysts used in the refining of petroleum, averaged about \$1 million for all purposes during the years 1960-63. Activated clays and earths are entered duty-free under end-use item 263c, subject to rates of 10 p.c. and 10 p.c. under end-use item 295c, or to rates of 15 p.c. and 20 p.c. under tariff item 711, as unenumerated articles. The Canadian producer originally requested rates of 10 p.c. and 10 p.c. but later urged a proposal for rates of 15 p.c. and 20 p.c.

The other activated natural mineral products of Recommended Item 38.03 are not made in Canada and do not appear to be of commercial importance.

For activated clay, the Board recommends rates of 10 p.c. and 15 p.c. For all the other products of Recommended Item 38.03, the Board recommends duty-free entry.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.04 Ammoniacal gas liquors and spent oxide produced in coal gas purification	10	15	25

Ammoniacal gas liquors and spent oxide are by-products of coal distillation. Anhydrous ammonia, ammonium hydroxide, ammonia sulphate and other ammonium salts are among the various substances extracted from ammoniacal gas liquors; these liquors also constitute a source of ammonia during the Solvay process for producing soda ash. Spent oxide was said to be used as a source of sulphur and cyanides and also as a fertilizer and an insecticide.

Although produced in Canada in great quantity, the products under consideration are not recovered and are not significant articles of trade in Canada. They may be entered free of duty under tariff items 663b (Recommended Item R-31) for the manufacture of fertilizers, 219a (Recommended Item 38.11) as insecticides, 791 (Recommended Item R-35) for the manufacture of insecticides, or at rates of Free and 5 p.c. as fertilizers under tariff item 663, (Recommended Item 31.00), and at rates of 15 p.c. and 20 p.c. as unenumerated goods under tariff item 711. Imports, if any, appear to be negligible.

Because the extensive domestic availability of these products and because of the possible future commercial importance of coal

distillation in Canada, the Board recommends rates of 10 p.c. and 15 p.c. for the products of Recommended Item 38.04.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.05 Tall oil	Free	Free	Free

The present Recommended Item would provide for crude and refined tall oil. The composition of crude tall oil varies with the type of wood-pulp from which it is derived and may contain fatty acids, resin acids and unsaponifiable or neutral matter including substances such as steroid alcohols, higher alcohols, hydrocarbons and ketones. Crude tall oil is primarily a source of tall oil fatty acids (Recommended Item 15.10) and tall oil resin acids (Recommended Item 38.08); it is also used to a smaller extent in asphalt emulsions and in the preparation of drilling muds, corrosion inhibitors and ore floatation agents.

Refined tall oil is generally obtained by distillation or chemical treatment of crude tall oil. Distillation under low pressure yields distilled tall oil which consists essentially of fatty acids and resin acids and finds its main application in soaps and detergents. Acid refined tall oil is one of the more important types of refined tall oil obtained by chemical treatment; it is not produced in Canada. Tall oil fatty acids, frequently obtained by fractional distillation, would not be in this Recommended Item; for them, the existing free entry would be continued in Recommended Item 15.10 (4). Tall oil resin acids would be in Recommended Item 38.08.

There are several domestic producers of crude tall oil for sale; the combined potential annual output of four of them is estimated at 18,000 tons; imports in 1964 were about 5,000 tons valued at \$360,000. On the other hand, there is only one domestic processor of crude tall oil located at Burlington, Ontario; imports of refined tall oil in 1964 were 660 tons valued at \$120,000.

Crude and refined tall oil may be entered free of duty under tariff items 585a, and under end-use items 270 and *848b, both of which would remain unchanged.

All the representations received by the Board urged that duty-free entry be continued for the products of Recommended Item 38.05. The domestic producer made no proposal for refined tall oil.

The Board recommends duty-free entry for both crude and refined tall oil.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.06 Concentrated sulphite lye	10	15	25

Concentrated sulphite lye is derived from the spent sulphite liquor left from the manufacture of wood-pulp by the sulphite process. The description covers various products commonly known as ligno-sulphonates in North America. They enter the market in different degrees of concentration and consistency and their main uses in Canada are as water-reducing agents in the preparation of mixed concrete and gypsum wallboards; as binders in the manufacture of refractory bricks, ceramics, linoleum, foundry cores and in pelletizing and briquetting; in the treatment of water; in the tanning of leather and as thinners of oil-well drilling mud.

One firm in Canada is engaged in the production of ligno-sulphonates. It is located in Quebec, P.Q. and has a capacity of 75,000 tons per year. Its sales in 1962 were valued at some \$850,000, of which about \$500,000 or 60 per cent was exported, mostly to the U.S.A., the remainder to Britain, Australia, India, Germany and Japan. Sales appear to have increased substantially since 1962 and the share represented by exports has declined to 40 per cent. The price ranges from 3¢ to 8½¢ a pound depending on type. Imports in 1964 were about 7,500 tons valued at \$581,000, virtually all from the U.S. The imports averaged 3.8 cents a pound and the Canadian producer claimed that, because of anti-pollution legislation which forbids the dumping of spent sulphite liquor in rivers, U.S. manufacturers, especially from the States of Wisconsin and Washington, could export at extremely low prices.

The statistics quoted in the preceding paragraph suggest a Canadian market of approximately \$1 million a year for lignosulphonates.

Lignosulphonates are now entered free of duty under tariff items 203 and 203a and under end-use items *492a, *492d and *848b which would remain unchanged. Exports to the United States are subject to a rate of 10 p.c.

The Board recommends rates of 10 p.c. and 15 p.c. for concentrated sulphite lye or lignosulphonates.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.07 Spirits of turpentine (gum, wood and sulphate) and other terpenic solvents produced by the distillation or other treatment of coniferous woods; crude dipentene; sulphite turpentine; pine oil (excluding "pine oils" not rich in terpineol)	Free	Free	Free

This Recommended Item would provide for the liquid solvents derived by the distillation of oleoresins exuded by or contained in the wood of pines and other coniferous trees, or as a by-product in the manufacture of wood-pulp. The distillates obtained from the oleoresins of living trees are usually referred to as gum turpentine, or gum spirit of turpentine, and used as solvents in the manufacture of paint and varnishes and that of reclaimed rubber, and, after further distillation, in medicine. The steam or destructive distillation of stumps, waste wood or saw-dust yields wood turpentine and crude dipentene used in the manufacture of paints and varnishes, and pine oil which, in Canada, is used chiefly as a frothing agent in the concentration of metallic ores by floatation but which also finds applications as a solvent for varnishes and nitrocellulose lacquers and as an ingredient in the manufacture of disinfectants, polishes and soaps because of its pleasant aroma and strong dirt and grease dissolving properties. The solvents obtained as a by-product in the manufacture of wood-pulp are known as sulphate or sulphite turpentine, depending on the type of chemical process used to produce the pulp; the sulphate turpentine is the most important. Both types are used mostly as solvents in the preparation of paints, varnishes and related products. Sulphite turpentine is also known as crude para-cymene.

Canadian production of turpentine is relatively small and confined to the sulphate type derived from the manufacture of wood-pulp. Shipments in 1959 were valued at \$257,000 but declined to \$79,000 in 1961. Imports of all types of turpentine, including pine oil, apparently all from the U.S.A. amount to somewhat less than \$1 million. This suggests a Canadian market of about \$1 million.

Most of the products of this Recommended Item, with the exception of pine oil, are now entered free of duty under tariff item 261 or under end-use item 270, which would remain unchanged, or 791 (Recommended Item R-35); pine oil is now subject to entry under tariff item 711 at rates of 15 p.c. and 25 p.c. Most imports are entered as spirits of turpentine under tariff item 261. There is no information available on imports under tariff items 711 and 791.

The Board recommends duty-free entry for all the products of Recommended Item 38.07.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.08 Rosin and resin acids, and derivatives thereof other than ester gums included in Recommended Item 39.05; rosin spirit and rosin oils	Free	Free	Free

This Recommended Item would include rosin and certain products derived from it by extraction or treatment. Rosin is the residue obtained in the distillation of oleoresins after the separation of the volatile spirits of turpentine.

Resin acids account for as much as 95 per cent of the volume of rosin; abietic acid is by far the most important of the several

closely related types of resin acids. These are used chiefly in the manufacture of synthetic resins, of paper sizes and in the production of the various derivatives of rosin and resin acids, such as the modified rosins used in the preparation of varnishes, paints, inks, glues and soaps; in producing salts of resin acids or inorganic resins used in the preparation of driers for paints and varnishes, in fungicides and disinfectants; in the production of esters of resin acids which find applications in the manufacture of lacquers, varnishes, rubber and linoleum and in the preparation of sizing for textiles; and finally in the manufacture of rosin spirit, or rosin essence, used in paints, varnishes and as a solvent for resins in general.

There is no evidence that any of the products of this Recommended Item within Reference 120 are made in Canada. Imports of resin acids, salts of resin acids, rosin spirit and rosin oils in 1964 were valued at \$1.7 million, all from the U.S.A. Imports of rosin oils, now entered free of duty under tariff item *266, not within the Reference and which would remain unchanged, ranged between \$50,000 and \$100,000 annually prior to 1964. There is no available information on the imports of modified rosins and the esters of resin acids. Rosin is entered free of duty under tariff item *584, outside the scope of Reference 120. Abietic acid is entered under tariff item 216 at Free and 15 p.c. or free of duty under end-use item 923; the esters and the salts of resin acids are entered under tariff item 208t at Free and 15 p.c. or free of duty under end-use items 921, 791 (Recommended Item R-35) or 851 which would remain unchanged; hydroabietal alcohol; entered under tariff item 208t at Free and 15 p.c. or free of duty under end-use item 921; modified resins, crude, are entered free of duty under tariff item *584 or, together with the synthetic without admixture, under tariff item 901(a)7; there is duty-free entry for rosin spirit under tariff item 261, for rosin under tariff item *584 and for tall oil resin acids under tariff item 585a.

Of the \$1.7 million of imports in 1964, \$219,000 were dutiable and the duty collected was 16.4 per cent of that value, suggesting that some imports might have been classified as mixtures under tariff item 220a(i) at an M.F.N. rate of 20 p.c.

Except in the case of metallic resins for which it was requested that they be considered as driers with proposed rates of 20 p.c., B.P., and 20 p.c., M.F.N., all the representations made to the Board by users and importers urged free entry for the products of Recommended Item 38.08. Metallic resins have been replaced almost entirely, as driers, by driers made from naphthenic acid or synthetic acids.

The Board recommends duty-free entry for the products of this Recommended Item.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.09 Wood tar; wood tar oils (other than the composite solvents and thinners falling within Recommended Item 38.18); wood creosote; wood naphtha; acetone oil	Free	Free	Free

The Recommended Item would provide for products obtained by the distillation of resinous or non-resinous woods. None is made in Canada; they do not seem to be of commercial importance and their imports are not reported separately.

Hardwood tar, derived from non-resinous woods such as beechwood, is the only important wood tar within the Reference. When further processed, hardwood tar yields derivatives such as tar oils, creosote and pitch. The tar obtained from pine wood, generally known as pine tar, is by far of the greatest commercial significance.

Wood tar oils obtained during the distillation of soft or hardwood tars are used in the manufacture of paper, paints and varnishes, insecticides, reclaimed rubber and in ore floatation. The more common are pine tar oils.

Wood creosote is used chiefly as a disinfectant or anti-septic, as an ore floatation agent and in medicine. It is derived from the destructive distillation of wood tar, mostly beechwood tar.

Wood naphtha is said to be obtained by processing pyro-ligneous liquids. It contains 70 to 90 per cent of methyl alcohol with varying proportions of acetone and other ketones. The nearest equivalent to the term wood naphtha in North America is wood alcohol. The latter, which, at one time, had some commercial importance, has been replaced by the synthetic methyl alcohol of Recommended Item 29.04 (8).

Acetone oil is a residue of the distillation of acetone and finds its application as a denaturant of alcohol.

Acetone oil is entered under tariff item 711 at 15 p.c. and 20 p.c.; pine tar is entered free of duty under tariff item *585; wood naphtha is entered under tariff item 158 at 20¢ per gal. under all Tariffs; wood tar, other than pine tar, is entered under tariff item 711 at 15 p.c. and 20 p.c.; wood tar oils (with the exception of beechwood creosote of pharmacopoeial grade entered under tariff item 208t at rates of Free and 15 p.c.), and wood creosote are entered at 15 p.c. and 20 p.c. under tariff item 711 or generally free of duty under tariff item 219a (Recommended Item 38.11), 270 which would remain unchanged or 791 (Recommended Item R-35).

For pine tar, outside the scope of the Reference, to preserve uniformity of nomenclature, the Board recommends mere relocation at the existing rates of Free and Free; for the other products of Recommended Item 38.09 which, as already noted, are not made in Canada, the Board recommends duty-free entry.

Recommended Item

B.P. M.F.N. G.T.

38.10 Vegetable pitch of all kinds;
 brewers' pitch and similar
 compounds based on rosin or
 on vegetable pitch; foundry
 core binders based on natural
 resinous products

Free Free Free

The vegetable pitches of this Recommended Item are residues obtained during the distillation or other treatment of vegetable substances. Sulphate, or tall oil, pitch is the only one made in Canada. Two other basic types, pine pitch and rosin pitch are subject to tariff item *585, not within Reference 120. Pine pitch is the only commercially significant type of wood pitch. Vegetable pitches find various applications including the caulking of ships and other watercraft, the water-proofing of fabrics, the impregnating of woods and the manufacture of reclaimed rubber.

The principal compounds and preparations based on vegetable pitch or other natural resinous substances are brewers' pitch, cobblers' wax, caulking pitch and foundry core binders. They are used respectively for coating the interior walls of beer barrels, for waxing yarns and twines used in sewing footwear and harness, for caulking ships and other watercraft, and in the preparation of foundry moulds. None of these compounds appears to be made in Canada.

Imports of tall oil pitch during 1964 are estimated at \$1,200. The product is now free of duty and the only producer which appeared before the Board did not request any change in the present rates. There seems to be no available information on the imports of the other products under consideration.

Brewers' pitch, caulking pitch, cobblers' wax and foundry core binders based on natural resinous products are dutiable at 15 p.c. and 20 p.c. either under tariff item 220a(i) as preparations or under tariff item 711 as unenumerated products; the foundry core binders which contain synthetic resin are now classified in tariff item 904 at 15 p.c. under both Tariffs. Pine pitch and rosin pitch are entered free of duty under tariff item *585. Sulphate pitch (tall oil pitch) is subject to free entry under tariff item 585a.

For uniformity of nomenclature, the Board recommends re-location of pine pitch and rosin pitch in this Recommended Item with their existing free entry; it further recommends free entry for the other products of the Recommended Item.

Recommended ItemB.P.M.F.N.G.T.

38.11 Chemicals for use exclusively as, and preparations compounded exclusively for use as disinfectants, insecticides, fungicides, herbicides, anti-sprouting products, rodenticides or otherwise in combatting pests of a plant or animal nature; all the foregoing subject to such regulations as the Minister may prescribe	Free	Free	Free
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The products covered by the present Recommended Item are preparations or formulations used to combat or destroy insects, pests, fungi and other biological organisms which cause harmful effects in agriculture, industrial property and households. Not included are products such as anti-fouling marine paints, disinfectant soaps, wax polishes or medicaments in which pesticidal properties are subsidiary, and nicotine or salts of nicotine unless put up in packages for sale by retail.

The preparations or formulations under consideration are generally referred to as pesticides; the market in Canada exceeds \$35 million annually. A wide interest was shown by large-scale and small-scale formulators, manufacturers of agricultural chemicals, large-scale users and individual companies that manufacture, import or distribute a particular range of the products or their containers.

In Canada, all pesticides manufactured, imported or offered for sale must be registered by brand under the Pest Control Products Act unless for export or supplied by prescription and not for resale in Canada. In 1964, 3,639 products were registered under the Act as compared to 3,000 in 1958.

The raw materials used in the production of pesticides may be grouped as follows: (a) biologically active ingredients, whose function is to destroy the pests; (b) synergists, which make the preceding more active; (c) conditioners which make the pesticide more effective; (d) packaging materials.

Some of the active ingredients are made in Canada but most are imported, mainly from the U.S.A. but also from Europe. Since most of the formulators of pesticides also produce other chemicals, separate data on the value of raw materials used for pesticides are not available. However, it is estimated that the total use of biologically active materials exceeds \$10 million a year.

In 1964, 304 firms were registered as formulators, packagers or retailers under the Pest Control Products Act. Of these, only 165 reported sales of more than \$10,000 a year and were said to account for 95 per cent of the total sales of pest control products in Canada. Plants are well distributed throughout the country; proximity to the market is important for prompt delivery. The demand for pesticides is confined to a short season and is unpredictable because of the weather,

the arrival of the pests and the intensity of their attacks. Adequate supplies must be kept to meet requirements at short notice and technical service to users must be provided.

Domestic production of pesticide formulations in 1961 was said to supply 60 per cent of the demand; about one half of the domestic production is made by seven companies. There is considerable excess capacity, enough to meet all requirements. Profits are claimed to be very low.

Agriculture is by far the largest user of pesticides, 75 per cent of a market valued at nearly \$36 million in 1964. Household and industrial uses share the remainder. Small package consumption is estimated to be between \$5 and \$6 million.

The economic significance of pesticides in agriculture is very great. The total savings realized through their use were estimated at \$54 million by the National Farmers Union and at \$925 million a year by one large-scale producer. Estimates of overall damage to agriculture by pests were quoted by one source at \$300 million and by another at \$1,500 million annually.

Imports of prepared pesticides, concentrates and biologically active ingredients were about \$20 million in 1963, mostly from the U.S.A. The value of imports of pesticides in packages weighing less than three pounds ranges between \$500,000 and \$600,000 a year. Possibly 75 to 80 per cent of the biologically active ingredients of pesticides are imported; of these, 85 to 90 per cent were said to come from the U.S.A. and the balance principally from Britain and West Germany.

The combination of large-scale and small-scale formulators of pesticides results in keen competition in local market areas. Many of the raw materials used in pesticides have to be imported and since most of the Canadian formulators are not highly integrated as suppliers of their own materials, competition from imported preparations is also significant. Most of the research required to develop new products is done outside of Canada. Generally speaking, prices of pesticides have tended to decline. They are comparable to or lower than the U.S. prices.

The pesticides and the materials entering into their production are now entered under a variety of tariff items. A large group of non-alcoholic chemicals and preparations is entered under tariff item 219a(1) at rates of Free and 12½ p.c. when in packages not exceeding three pounds in weight; otherwise, under tariff item 219a(2), free of duty under both Tariffs. This group includes the following chemicals (their recommended classification for general use is indicated in parentheses): acenaphthene (29.01), aldrin (29.02), alkylbenzyltrialkylammonium chlorides (29.24), ammonium bifluoride (28.29), ammonium fluoride (28.29), ammonium hypochlorite (28.31), ammonium selenate (28.48), ammonium sulphamate (28.48), ammonium thiocyanate (28.44), aniline (29.22), arsenic hydride (28.57), arsenic pentoxide (28.11), barium chloride (28.30), barium hypochlorite (28.31), barium silicofluoride (28.29), benzene hexachloride (29.02), benzyltrialkylammonium chlorides (29.24), bromoethane (29.02), butopyronosyl (29.35), 2-butoxy-2'-thiocyanodiethylether (29.31), bis-butylene tetrahydrofurfural (29.35), calcium arsenates (28.41), calcium arsenite (28.41), calcium fluoride (28.29), calcium permanganate (28.47), calcium

polysulphide (28.35), calcium propionate (29.14), calcium thiosulphate (28.37), captan (29.31), carbon tetrachloride (29.02), cetyltrimethylammonium bromide (29.24), chloranil (29.13), chlorbis (ethylamino) triazine (29.35), chlordane organic phosphate compounds, such as parathion, chlordiazepoxide hydrochloride (29.35), chlorine (28.01), chloroallyldiethyldithiocarbamate (29.31), parachlorobenzene (29.02), 2-chloro-4-ethylamino-6-isopropylamino-s-triazine (29.35), 4-chloro-3-methylphenol (29.07), chloroquinol (29.07), 6-chlorothymol (29.07), 4-chloro-3,5-xylenol (29.07), chromium fluoride (28.29), copper arsenates (28.41), copper arsenite (28.41), copper fluorosilicate (28.29), copper naphthenate (38.19), copper oleate (29.14), copper oxychloride sulphate (28.48), copper sulphate, tribasic (28.38), cresol, mixed isomers, other than B.P. and U.S.P. grades (29.06), m-cresol (29.06), o-cresol (29.06), p-cresol (29.06), cupric sulphates (28.38), cuprous sulphate (28.38), demeton (29.31), diazinon (29.35), dichloroallyl di-isopropylthiocarbamate (29.31), ortho-dichlorobenzene (29.02), para-dichlorobenzene (29.02), dichlorodiphenyltrichloroethane (29.02), 2,3-dichloro-1,4-naphthoquinone (29.13) dichlorophen (29.07), 2,4-dichlorophenoxyacetic acid (29.16), 2,4-dichlorophenoxybutyric acid (29.16), dieldrin (29.09), diethylchloromethylcoumarinyl thiophosphate (29.35), diethyl-p-chlorophenylthiomethyl dithiophosphate (29.31), N,N-diethyl-m-toluamide (29.25), N,N-diisopropyl-2-benzothiazolesulphenamide (29.35), dimethyldiaminotriazinylmethyldithiophosphate (29.35), 1,1'-dimethyl-4,4'-dipyridylum dichloride (29.35), dimethyl tetrahydrothiadiazinethione (29.35), di(phenyl mercuric)dodecenyl succinate (29.33), diphenyl mercury dodecyl succinate (29.33), dipropyl isochromeronate (29.35), disodium ethylene bisdithiocarbamate (29.31), disodium methyl arsonate (29.32), dithiocarbamates (29.31), endrin (29.09), ethion (29.31), ethyl chloride (29.02), ethylene dichloride (29.02), 1,1'-ethylene-2-2'-dipyridylum dichloride (29.35), ethylene thiourea (29.35), 2-ethyl-1,3-hexanediol (29.04), ethyl formate (29.14), ethyl mercury chloride (29.33), ethyl mercury nitrile (29.33), ferric chloride (28.30), ferric dimethyl dithiocarbamate (29.31) glyodin (29.35), guanidine nitrate (29.26), guthion (29.35), halazone (29.36), halogenated carbanilides (29.25), halogenated salicylanilides (29.25), heptachlorodicyclopentadiene (29.02), hexachlorophene (29.07), hydrazinium: quaternary salts and bases (29.29), hypochlorites (preparations of), iron acetate (29.14), isobornyl thiocyanatoacetate (29.31), lamprecide, lauryl dimethyl benzyl ammonium chloride (29.24), lead arsenates (28.41), lead arsenite (28.41), lime sulphur, magnesium chloride (28.30), magnesium fluorosilicate (28.29), malathion (29.31), maleic hydrazide (29.35), manganese ethylene bisdithiocarbamate (29.31), M C P (29.16), mercuric chloride, other than A.R. grade (28.30), mercurous chloride (28.30), mercury arsenates (28.41), mesityl oxide (29.13), methoxychlor (29.08), methylal chloride (29.10), methyl gallate (29.16), methyl mercury nitrile (29.33) methyl mercury oxinate (29.35), methyl salicylate (29.16), naphthalene (29.01), 1,4-naphthaquinone (29.13), naphthols (29.06), N-1-naphthylphthalamide acid and its sodium salts (29.25), m-nitrobenzaldehyde (29.12), octyl-o-cresol (29.06), organo-bromine compounds, paraformaldehyde (29.11), pentachlorophenol (29.07), peracetic acid (29.14), phenol (29.06), phenyl mercuric acetate (29.33), phenyl mercuric chloride (29.33), phenyl mercuric formamide (29.33), phenyl mercuric nitrate (29.33), phenyl mercuric oleate (29.33) phenyl mercury triethanol ammonium lactate (29.33), ortho-phenylphenol (29.06), para-phenylphenol (29.06), piperonyl butoxide (29.10), potassium arsenates (28.41), potassium chromate (28.47), potassium cyanate (28.44), potassium dichloroisocyanurate (29.35), potassium fluoride (28.29),

potassium manganate (28.47), potassium permanganate (28.47), potassium sorbate (29.14), propionic acid (29.14), pyrethrum sprays, quaternary ammonium derivatives, rotenone (29.35), sodium arsenite (28.41), sodium benzoate (29.14), sodium di-butyl dithiocarbamate (29.31), sodium fluoride (28.29), sodium fluorosilicate (28.29), sodium iodate (28.34), sodium N-methyl dithiocarbamate (29.31), sodium pentachlorophenate (29.07), sodium permanganate (28.47), sodium propionate (29.14), sodium selenates (28.48), sorbic acid (29.14), strychnine arsenate (29.42), strychnine hydrochloride (29.42), strychnine nitrate (29.42), strychnine phosphate (29.42), strychnine sulphate (29.42), sulphur dioxide (28.07), tellurous acid anhydride (28.13), tetrachlorodiphenylsulphone (29.31), tetramethylammonium formate (29.24), tetramethylammonium hydroxide (29.24), tetramethylammonium iodide (29.24), tetramethylthiuram disulphide (29.31), tetramethylthiuram monosulphide (29.31), thiodan (29.35), thiomersal (29.33), trichloroallyldiisopropylthiocarbamate (29.31), trichlorofon (29.34), trichloroisocyanuric acid (29.35), trichloromethylthiophthalimide (29.31), 2,4,5-trichlorophenoxyacetic acid (29.16), trioxan (29.11), trisodium phosphate chlorinated, warfarin (29.35), zinc arsenite (28.41), zinc dimethyl dithiocarbamate (29.31), zinc dimethyl dithiocarbamate cyclohexylamine complex (29.31), zinc ethylene bis-dithiocarbamate (29.31), zinc fluorosilicate (28.29) and zinc hypochlorite (28.31).

Acrylonitrile (29.27), bromomethane (methyl bromide) (29.02), carbon bisulphide (28.15), cyanides (28.43), ethylene oxide (29.09), methyl formate (29.14) and trichloronitromethane (chloropicrin) (29.03) or mixtures containing any of these, are, for pesticide use, entered free of duty under tariff item 219e. Calcium cyanamide (28.58 or 31.00) is entered free of duty under tariff item 663a. Chloride of lime is entered under tariff item 208a(1) at rates of Free and 15¢ per hundred pounds when in packages of not less than 25 pounds in weight and otherwise under tariff item 208a(2) at 17½ p.c. and 25 p.c. Copper acetate, basic (verdegriis or subacetate of copper) is entered free of duty under tariff item 208. Copper acetoarsenite (Paris green) (29.45) is entered under tariff item 250 at Free and 7½ p.c. Copper sulphate, dehydrated (28.38) is entered free of duty under tariff item 208c. Formaldehyde (29.11) is entered free of duty under tariff item 219b. Nicotine, its salts (29.42) and its preparations are entered free of duty under both Tariffs under tariff item 209b. Sodium hypochlorite in solution (28.31) is entered under tariff item 210i at 15 p.c. and 20 p.c. The pesticide preparations not otherwise provided for, if they are non-alcoholic are entered, as stated above, under tariff item 219a and if they are alcoholic under the varying rates of tariff item 220a(ii). Materials for use in producing or manufacturing the products of Recommended Item 38.11 are now entered free of duty under tariff item 791 and the Board is recommending continued free entry for them in Recommended Item R-35. Materials used in the manufacture of containers for pesticides are now subject to a drawback of 99 p.c. under drawback item 1026 and the Board is recommending continuation of this drawback in Recommended Item R-42.

The existing provisions of tariff item 219a provide for non-alcoholic "chemicals" and "preparations", both "n.o.p.", "for disinfecting, or for preventing, destroying, repelling or mitigating fungi, weeds, insects, rodents or other plant or animal pests"; the provisions of tariff item 219e provide for certain named chemicals and mixtures containing any of them, "for use in combatting destructive insects and pests". Heading 38.11 of the Brussels Nomenclature provides for

"Disinfectants, insecticides, fungicides, weed-killers, anti-sprouting products, rat poisons and similar products, put up in forms or packings for sale by retail or as preparations or as articles (for example, sulphur-treated bands, wicks and candles, fly-papers)."

A comparison of the existing Tariff and the Brussels Nomenclature reveals a difference in basic concept. The existing Tariff encompasses a group of products (chemicals and preparations, both non-alcoholic) based on an end-use which is disinfecting or pesticidal in its nature; the Brussels heading on the other hand, covers a range of products intended for the destruction of similar things but with the additional requirements of special packaging, possession of the character of preparations or having the form of special articles.

The Recommended Item is a modification of Brussels Heading 38.11, intended to preserve the existing end-use concept, to preserve and slightly enlarge the existing broad coverage, to extend it well beyond that of the Brussels heading and to eliminate the restrictive aspects of the Brussels heading relating to the requirements of packaging, of being preparations and of being articles. The Recommended Item is not qualified by the restrictive "n.o.p." which now appears in existing item 219a. Because it has not recommended continuation of the existing restriction to non-alcoholic products, the Board has recommended a delegation of power to the Minister to prescribe regulations should he deem it necessary.

Nineteen submissions expressing the views of thirty-five companies and associations were presented on heading 38.11 in November 1962. A number of submissions on individual chemicals having some relevance with pesticides were also made throughout the course of other hearings. Two proposals concerned the full range of pesticides, one by seven formulators who account for one half of the total production of finished pesticides in Canada, the other by the National Farmers Union supported by the Canadian Federation of Agriculture and representing the agricultural industry, the largest single user. The first urged rates of 15 p.c. and 20 p.c. on all the pesticides of heading 38.11, whether made in Canada or not; it also requested that the biologically active chemicals made in Canada be subject to the rates of duty recommended for the pesticide preparations and that those not so made be duty-free. The second opposed any tariff increase.

The formulators who sought protection based their claim on the need to secure the 40 per cent of the Canadian market now supplied by imports, on their low profit margin, on the high rates of duty in the U.S.A. which prohibit Canadian exports and thus restricts potential production. Furthermore they maintained that greater Canadian production would result in lower unit costs of formulation and distribution and that keen competition among the domestic formulators would prevent the rates requested from having any major effect on prices to the consumers, as long as the prices of their raw materials remained the same.

Firms interested in particular chemicals and solutions or in containers sought protection to safeguard their production facilities.

The principal arguments urged by the National Farmers Union against any increase in the rates applicable to pesticides were that:

(a) prices of pesticides would likely increase and, of even more serious consequence, the range of pesticidal preparations would be reduced; (b) economies of scale of production cannot be significant in a small market; (c) higher production costs would reduce the margin of profit in farming, which is already very small, and any increase could not be passed on to foreign purchasers because of the nature of the export market nor recouped by way of drawback on exports of agricultural products.

Objection to increased rates of duty on pesticides was also voiced by the Canadian Pulp and Paper Association on behalf of the pulp and paper industry and by small formulators. One of the latter claimed that at present there are only two or three manufacturers in Canada with complete facilities to formulate the wettable powders and granular pesticides. These few manufacturers set the price of the Canadian products and are the competitors of the smaller formulators. Added protection on pesticides and the raw materials which enter in their manufacture would place the small formulator in a very unfavourable situation.

It seems evident that an increase in the rates of duty now applicable to pesticides and the various raw materials used in their manufacture might restrict the range of the preparations and formulations used in Canada and could very well hurt vital sectors of the Canadian economy. Most of the active ingredients required for the production of pesticides must be imported, research for the development of new preparations and formulations is done outside of Canada and the complete facilities for the formulation of wettable powders and granular pesticides required by virtually all the formulators are very limited.

The Board recommends duty-free entry for the chemicals and preparations generally referred to as pesticides, in an item which differs from Brussels heading 38.11 in order to cover the products now admissible as pesticides in the Canadian Tariff.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.12 Prepared glazings, prepared dressings and prepared mordants, of a kind used in the textile, paper, leather or like industries:			
(1) Other than the following	10	15	25
(2) Preparations of this item having the quality of starch per pound	1¢	1¢	2¢
(3) Prepared mordants	Free	Free	Free
(4) Rosin sizing	5	7½	10

The products of this Recommended Item are mixtures which impart certain characteristics to materials, such as yarns, fabrics, paper, leather, during the finishing process, or during the dyeing or printing of such materials in order to facilitate the fixation of dyes. Some products covered by the Recommended Item are classified in tariff items *39(ii), *39e, *252 and *254(4) which are not within the terms of Reference 120.

Many firms in Canada are engaged in the manufacture of finishes for the leather, textile and paper industries. Information about the Canadian market is very limited; it can be assumed however that it is valued at several million dollars with imports of less than \$1 million.

Leather dressings are now entered under tariff item *252 at rates of $12\frac{1}{2}$ p.c. and $17\frac{1}{2}$ p.c.; preparations having the quality of starch, under tariff item *39(ii) at the specific rate of 1¢ per pound under both tariffs; rosin sizing, under tariff item *39e, at rates of 5 p.c. and $7\frac{1}{2}$ p.c.; prepared sizes other than rosin sizing, preparations based on shellac or artificial resins, preparations for waterproofing fabrics and opacifying preparations, under tariff items 220a(i) at rates of 15 p.c. and 20 p.c., duty-free under tariff item *254(4) or at rates of 15 p.c. and 15 p.c. under tariff item 904; prepared mordants generally at 15 p.c. and 20 p.c. under tariff item 220a(i), but if iron liquor or red liquor free of duty under tariff item 203 or, if qualifying, free of duty under tariff item 203a; other products of this Recommended Item are subject to entry under tariff item 203d free of duty, under tariff item 248 at specific rates of 75¢ and 85¢ per gallon, or under tariff item 249 at the compound rates of 5 p.c. and 15¢ per gallon under the B.P. Tariff and 15 p.c. and 15¢ per gallon under the M.F.N. Tariff.

Most of the submissions made to the Board proposed rates of 15 p.c. and 20 p.c., based on higher materials and production costs and the threat of competition from the U.S., the main source of imports. One importer, supported by the Canadian Textiles Institute, requested free entry for stain, oil or water repellants that have a fluoro-chemical as the chief ingredient. Such repellants are not made in Canada and are not competitive with either Canadian-made or imported products. They are now classified under tariff item 904, at rates of 15 p.c. and 15 p.c.

The Board recommends rates of 10 p.c. and 15 p.c. for the products of Recommended Item 38.12 with the exception of prepared mordants for which it recommends free entry and of two further substances outside the scope of the Reference for which, by mere relocation, it is recommending the continuation of existing rates: preparations of the item having the quality of starch at rates of 1¢ per pound under both tariffs and rosin sizing at 5 p.c. and $7\frac{1}{2}$ p.c.

Recommended Item

B.P. M.F.N. G.T.

38.13	Pickling preparations for metal surfaces; fluxes and other auxiliary preparations for soldering, brazing or welding; soldering, brazing or welding powders and pastes consisting of metal and other materials; preparations of a kind used as cores or coatings for welding rods and electrodes	10	15	25
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The products of this Recommended Item either join or coat metals, facilitate their union, or remove rust and scale from them before they are further processed. Except for a few specialty types of welding and brazing fluxes, they are made in Canada and most of the raw materials required in their production are available domestically.

Preparations consisting solely of metallic powders or electrodes of base metal carbides, coated or cored with a flux are not covered by Recommended Item 38.13.

The representations made to the Board dealt only with fluxes although attention was drawn to inhibited muriatic acid used as a pickling preparation; this preparation is made in Canada and dutiable at rates of 15 p.c. and 20 p.c. under tariff item 220a(i).

Published data on the Canadian market for the products under consideration are not available. It is estimated at some \$2 million annually, about 80 per cent held by the Canadian manufacturers. Imports were said to be approximately divided evenly between U.S.A. and U.K. No exports were reported. Prices in Canada are generally comparable to those in the U.S.A.

Fluxes, and apparently all the other products of Recommended Item 38.13, are at present entered at rates of 15 p.c. and 20 p.c. under tariff item 220a(i) or 711. The companies submitting briefs requested that these rates be maintained urging that there was no evidence that these rates were burdensome, that about 80 per cent of the types of fluxes were made in Canada and that the fluxes were a minor cost item for the users.

The Board recommends rates of 10 p.c. and 15 p.c. for all the products of Recommended Item 38.13.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.14 Anti-knock preparations, oxidation inhibitors, gum inhibitors, viscosity improvers, anti-corrosive preparations and similar prepared additives for mineral oils:			
(1) Other than the following	10	15	25
(2) Anti-knock preparations of tetraethyl lead or tetramethyl lead in which tetraethyl lead or tetramethyl lead or a mixture of both is the preponderant constituent by weight	5	10	25

Mineral oil additives improve the storage or performance qualities of lubricants or fuels. The term mineral oil includes gasoline, fuel oil, lubricating oil and grease derived from crude oil. The lubricants or fuels themselves, as well as the chemically defined elements or compounds, are excluded from the present Recommended Item.

The Canadian market for mineral oil additives appears to be of the order of \$30 million a year. Anti-knock preparations constitute about 60 per cent of the consumption of finished additives, followed in importance by lubricating additives and additives for heating oils. Production in Canada supplies 60 per cent of the requirements for additives. Some firms produce primarily anti-knock compounds for gasoline and others, additives for lubricating oils and fuel oils.

Anti-knock preparations control the rate of combustion of gasoline in the combustion chamber. They are of three types based either on tetraethyl lead compounds, tetramethyl lead compounds or mixed lead alkyl compounds. Until 1965, only the first type was made in Canada and by one producer. This producer, as well as a second one, is now producing the three types. Each type has different characteristics.

The market for anti-knock preparations in Canada is about \$20 million a year, 80 per cent of which was supplied by the one Canadian producer until a second started production in 1966. Imports presumably will decline in the future. There are no exports. The price of tetraethyl lead anti-knock preparations in Canada, the only one on which information is available, was said to be competitive with that of imports from the U.S.A., the source of all imports. Increased world capacity might result in lower prices for anti-knock preparations.

Anti-knock preparations are now entered under tariff item 220a(i) at rates of 15 p.c. and 20 p.c., under tariff item 263 at rates of Free and 5 p.c. when preponderantly of tetraethyl lead, and under tariff item 263e at rates of 12½ p.c. and 12½ p.c. when preponderantly of tetramethyl lead. Ethylene dibromide and sodium, the principal raw materials imported for use in the production of tetramethyl or tetraethyl lead or mixed ethylmethyl leads and compounds thereof are subject to free entry under tariff item 263d for this use.

The only producer of tetraethyl preparations until 1965 proposed rates of 5 p.c. and 10 p.c. for all types of anti-knock preparations. One large user opposed increased rates on tetraethyl lead compounds, another sought a reduction in rates applicable to tetramethyl lead compounds. Thus, the producer urged an increase in the rates to most of the imports and the two users which import, in one case part of its requirements of tetraethyl lead compounds and in the other all its requirements of tetramethyl lead compounds not made in Canada until recently, sought to safeguard their own interests in view of the nature of their operations.

Additives for lubricating oils in Canada are produced by several companies. These are primarily blends of components imported mostly from the U.S.A. The Canadian market for lubricant additives is estimated between \$10 million and \$12 million annually, one-fifth or 20 per cent being supplied by domestic production. The number of components made in Canada is increasing. Prices of finished additives were said to be 3 to 11 per cent higher than comparable prices in the U.S.A. Part of the production is for captive use.

The Canadian market for additives for other mineral oil fuels and greases is small in relation to the total additive market.

Available statistics are limited to imports of gasoline anti-oxidants valued at less than \$400,000 in recent years and those of liquid gum inhibitors for treating petroleum distillates which amounted to some \$225,000 in 1964, a decline from \$434,000 in 1959.

Anti-oxidants for gasoline and lubricating oil were reported made in Canada by one company, principally the ditertiary butyl para cresol covered by Recommended Item 29.06(1). The same company also makes limited quantities of anticorrosive chemicals and stabilizers for fuels, as well as metal deactivators for gasoline, fuel oils and like petroleum products. The firm enjoys a substantial portion of the market for anti-oxidants and a smaller part of that for the remaining products.

Production of fuel oil additives used to prevent sludge and rust formation during storage was reported by one firm which claimed also to be a potential producer of corrosion inhibitors for use in pipeline transportation of petroleum products.

Additives for lubricating, heating and fuel oils may be imported at rates of 15 p.c. and 20 p.c. under tariff items 220a(i), 220c or 711, at rates of 10 p.c. and 10 p.c., under tariff item 901(c)5, or at rates of 15 p.c. and 15 p.c., under tariff item 904. Materials, of a class or kind not made in Canada, for use in the manufacture of the additives are entered at Free and 5 p.c. under end-use item 220e.

A number of submissions were made concerning rates to be applied to additives for lubricating, heating and fuel oils and their components. Most suggested rates of 15 p.c. and 20 p.c. for the additives made in Canada and continuation of the present rates on the components. One proposed rates of 10 p.c. and 10 p.c. on all additives and components whether made in Canada or not. One firm expressed dissatisfaction with the wording of heading 38.14. The elimination of tariff item 220e was urged, as well as its retention.

The Board recommends rates of 5 p.c. and 10 p.c. for anti-knock preparations of tetraethyl lead or tetramethyl lead in which one or a mixture of both is the predominant constituent by weight and rates of 10 p.c. and 15 p.c. for the other prepared additives of Recommended Item 38.14

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.15 Prepared rubber accelerators	10	15	25

Rubber accelerators are added to rubber prior to vulcanization in order to improve the physical properties of the vulcanized article and to reduce the time required for vulcanization. They are of two types: separately defined chemicals, and mixtures or blends. The first supply 80 to 90 per cent of the market and belong in other Recommended Items; the second supply the remainder of the market and are properly under the present Recommended Item.

Early in 1963, there were only two manufacturers of rubber accelerators in Canada. Production does not appear considerable but

it could be increased with the existing facilities. Raw materials represent a very high element of the manufacturing cost; half can be obtained from domestic sources.

Data on production, consumption and imports of blended rubber accelerators are not available separately. Imports of the two types of rubber accelerators in 1963 were \$1.7 million and it is believed that they consisted chiefly of chemically defined products. Some rubber accelerators are not made in Canada and are evidently imported; they originate in the U.S.A., Britain, West Germany and other European countries; a few are directly competitive with those made in Canada.

The rubber accelerators of this Recommended Item are imported principally under tariff items 220a(i) and 711 at rates of 15 p.c. and 20 p.c. though some, presumably reaction blends, appear to be classified in tariff item 208t at rates of Free and 15 p.c.

The two manufacturers, unopposed by the Rubber Association of Canada, requested that the present rates be continued for all rubber accelerators, whether made in Canada or not.

The Board recommends rates of 10 p.c. and 15 p.c.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.16 Prepared culture media for development of micro-organisms	Free	Free	Free

Very little information is available on the prepared culture media of this Recommended Item. They are not made in Canada. Imports -- from the U.S.A. and Britain -- amount to less than \$100,000 annually.

Prepared culture media are used mainly for research, quality control and in the production of antibiotics, biologicals, bacteriologicals and hormone products; they may be entered free of duty under tariff item *206a(4), not in Reference 120, or under tariff item 875a, or as preparations, at rates of 15 p.c. and 20 p.c. under tariff item 220a(i).

The Board recommends duty-free entry.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.17 Preparations and charges for fire-extinguishers, not including charged fire-extinguishing grenades	10	15	25

Fire extinguishers, whether or not charged, are not included in this Recommended Item and unmixed chemically defined substances with fire extinguishing properties are included only when put up as charges for fire extinguishers.

Preparations for fire extinguishers make use of several chemicals. Those based on carbon tetrachloride are produced in Canada by two firms. A third started the manufacture of protein-based, foam-type fire extinguisher materials early in 1963.

The preparations based on carbon tetrachloride are now subject to rates of 15 p.c. and 20 p.c. under tariff item 220a(i) or 711; the two producers requested continuation of these rates. When of a kind not produced in Canada, single chemicals put up as charges for fire extinguishers may also be imported under tariff item 208t at rates of Free and 15 p.c.

There is no information before the Board about the Canadian market and the extent of imports, if any.

The Board recommends rates of 10 p.c. and 15 p.c. for preparations and charges for fire extinguishers. Charged fire-extinguishing grenades classified under tariff item *424a, not in Reference 120, are excluded from the Recommended Item.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
38.18 Composite solvents and thinners for varnishes and similar products	10	15	25

Solvents and thinners would be covered by this Recommended Item provided they are not separate chemically defined compounds of another Recommended Item. Also covered are paint removers, emulsifiers, gelling agents and other such products. Nail polish remover is excluded when packaged for sale at retail.

Composite solvents and thinners are made in Canada. Production and market data are not available. However, imports and exports appear to be small.

The products of Recommended Item 38.18 may be dutiable at rates of 15 p.c. and 20 p.c. under tariff items 220a(i) and 711; they may also, when containing more than 2.5 per cent of proof spirit, be entered under tariff item 220a(ii) at various rates, depending on their content of proof spirit.

Two producers proposed rates of 15 p.c. and 20 p.c.

The Board recommends rates of 10 p.c. and 15 p.c.

Recommended ItemB.P. M.F.N. G.T.

38.19 Chemical products and preparations of the chemical and allied industries (not including those consisting of mixtures of natural products other than compounded extenders for paints), n.o.p.; residual products of the chemical or allied industries, n.o.p.; not including soap nor pharmaceutical, flavouring, perfumery, cosmetic or toilet preparations:

(1) Other than the following	10	15	25
(2) Alkyl aryl hydrocarbons, unsulphonated reaction blends	5	10	25
(3) Anti-freezing compounds	15	15	25
(4) Blends of tall oil and tall oil pitch without other admixture	Free	Free	25
(5) Catalyst preparations for cracking petroleum, other than the fluid-bed type	Free	Free	25
(6) Coal tar dye intermediates in solvents	Free	Free	15
(7) Fusel oil	Free	Free	15
(8) Hydrolized animal matter for use as retarder	10	10	25
(9) Mixtures of ethylene glycol and other glycols in which ethylene glycol predominates, for use in the manufacture of anti-freezing compounds	10	10	25
(10) Naphthenates of aluminum, barium, calcium and chromium	Free	15	25
(11) Residual lyes from the manufacture of wood pulp by the alkali or sulphate processes and their skimmings, dried or not	Free	Free	25
(12) Tin-based stabilizers for synthetic resins	Free	Free	25

In the corrigenda, published in Volume 3 of this Report, the Board has changed the words of the item; otherwise, in the context of the Canadian Customs Tariff it would include a considerable range of non-chemical mixtures that are not included in Reference 120.

It is intended to make provision for the residual products and preparations of the chemical or allied industries not specified or included in other items of the Canadian Customs Tariff. Because of the differences between the non-chemical items of the Canadian Tariff and of the Brussels Nomenclature its contents necessarily differ from those of the corresponding Brussels heading.

The chemicals and preparations of this Recommended Item are either mixtures or non-aqueous solutions whose composition is not chemically defined, whether obtained as by-products from industrial processes or prepared directly, with the exception, however, of cultured crystals, ink removers, stencil correctors and plasters, and preparations for dentistry. The Recommended Item includes commodities that are not chemicals.

The Canadian market for products of the present Recommended Item is in excess of \$30 million annually. The products included in the item which came to the attention of the Board are dealt with in what follows.

Aerosol propellant preparations

These are mixtures of chlorofluorohydrocarbons and may be prepared in unlimited variations. They are made in Canada, apparently by only one producer. Canadian prices are comparable to those in the U.S.A. and there are no known imports.

Aerosol propellant preparations are dutiable at rates of 15 p.c. and 20 p.c. under tariff items 220a(i) or 711. They may also be entered free of duty for the manufacture of pesticides under tariff item 791 (Recommended Item R-35).

The Board recommends rates of 10 p.c. and 15 p.c.

Anti-foam preparations

Anti-foam preparations, or defoamers, find application in the pulp and paper, textile, protective coating, food processing and specialty chemical industries. They are made in Canada and used to control or eliminate the foam generated during the manufacture of industrial products, improve their quality and speed their production.

One of the major producers claimed that its prices were comparable with those in U.S.A. and even lower for some defoamers.

However, the production of some defoamers in Canada would not be economic. Imports of defoaming agents and foam controllers were valued at \$710,000 in 1962 but declined to \$400,000 in 1963. No published data are available on the total Canadian market.

Anti-foaming agents are now subject to rates of 15 p.c. and 20 p.c. under tariff items 220a(i) or 711. All representations urged continuation of the present rates.

The Board recommends rates of 10 p.c. and 15 p.c.

Anti-freezing preparations

Anti-freezing preparations based on ethylene glycol are the products of by far the greatest commercial importance with a market of more than \$12 million a year in 1962 and expected to reach \$18 million in 1965; these preparations prevent damage from ice in the cooling systems of internal combustion engines.

In 1963, there were some fifteen manufacturers of anti-freezing preparations in Canada although only two made the ethylene glycol blend used in the preparations. Part of the output of the blend was converted into anti-freeze preparations by the two producers, part by other firms on a contractual basis, and the remainder was sold

to other manufacturers of the preparations. Most of the unintegrated manufacturers of anti-freeze preparations were under contract to the two producers of ethylene glycol, principally to Dow Chemical; in 1963 only three of the non-integrated producers were independent.

Imports of ethylene glycol anti-freeze preparations were less than \$50,000 in 1964 and there is no indication that the independent canners imported appreciable amounts of ethylene glycol.

The control of the two integrated producers over the margin of cost between ethylene glycol and the price and conditions of sale of the preparations raised some heated arguments from the three independent canners who urged that their position was becoming untenable.

Ethylene glycol based anti-freezing preparations are provided for in tariff item 207d at a rate of 15 p.c. under both Tariffs. When for use in the manufacture of anti-freezing compounds, ethylene glycol is subject to a rate of 10 p.c. under both Tariffs under existing item 207c.

One of the integrated producers which had urged rates of 15 p.c. and 20 p.c. for ethylene glycol under heading 29.04, requested that the existing additional five percentage points on the preparations be maintained and proposed rates of 20 p.c. and 25 p.c. on anti-freezing preparations. The other integrated producer, which had also suggested rates of 15 p.c. and 20 p.c. on ethylene glycol, did not oppose a differential on the preparations.

The representations made by two independent canners dealt mainly with the removal of the 10 p.c. duty on ethylene glycol, while agreeing that the duty on canned anti-freeze should be continued at least at the present rates. One of them proposed that anti-freeze in bulk be duty-free.

In Recommended Item 29.04, the Board has recommended continuation of the present rates of 10 p.c. under tariff item 207c for ethylene glycol. It recommends also rates of 10 p.c. under both Tariffs for mixtures of ethylene glycol and other glycols in which ethylene glycol predominates, when for use in the manufacture of anti-freezing compounds. For the anti-freezing compounds, retention of the existing rate of 15 p.c. under both Tariffs is recommended.

Compound catalysts

Catalyst preparations used in the petroleum industry are of two types: the powder or fluid-bed type, and the bead or pellet type. Cracking catalysts of the first type are made in Canada; those of the second are generally not, and requirements are imported from the U.S.A.

The Canadian market for compound catalysts exceeds \$7 million annually. The petroleum industry is the main consumer.

Identified imports of catalyst preparations in 1964 were valued at \$5.5 million and are believed to be mostly of types not made in Canada. It is not known how many of these imports would be classified in Recommended Item 38.19.

Some catalyst preparations are free of duty under tariff items 262 which would remain unchanged, 263c, 490, 490a, 663b (R-31), 851 which would remain unchanged and 921. Others may be entered at rates of Free and 15 p.c. under tariff item 208t or at rates of 15 p.c. and 20 p.c. under tariff items 220a(i) and 711.

It was generally proposed that catalyst preparations of a kind not made in Canada should be duty-free and those of a kind so made should bear rates of 15 p.c. and 20 p.c.

The Board recommends rates of 10 p.c. and 15 p.c. for catalyst preparations of the fluid-bed type and duty-free entry for the other types of catalyst preparations for cracking petroleum.

Crude petroleum purifying preparations

These preparations remove water and salts from crude petroleum oils. Their composition is not generally known by the oil companies. They are purchased under trade names and manufactured to meet specific conditions.

The Canadian consumption is estimated at \$200,000 annually. The preparations are not made in Canada but are imported from the U.S.A. free of duty under tariff item 262.

All submissions were for retention of duty-free entry.

Under the Board's recommendation, the provisions of tariff item 262 would remain unchanged and the crude petroleum purifying preparations would continue to be admitted free of duty.

Cyclohexanol - cyclohexanone mixture

This mixture is made in Canada by one company which uses all its production captively for the manufacture of nylon 6/6. There are no imports.

Because the mixture is not ruled to be of a kind made in Canada it may be entered free of duty under tariff item 921 when for the manufacture of synthetic resins or plastics; otherwise, it is dutiable at rates of 15 p.c. and 20 p.c. under tariff item 220a(i).

The Board recommends rates of 10 p.c. and 15 p.c.

Dippel's oil

No representations were made on this product. It is derived from the destructive distillation of bones or other animal substances and used in organic preparations, as a source of pyrrole and as a denaturant.

Dippel's oil is now dutiable at rates of 15 p.c. and 20 p.c. under tariff item 711.

The Board recommends rates of 10 p.c. and 15 p.c.

Dry bleach and oxygen bleach

These two products are made in Canada by at least one manufacturer and are dutiable under tariff item 220a(i) at rates of 15 p.c. and 20 p.c., continuation of which was requested.

The Board recommends rates of 10 p.c. and 15 p.c.

Since Recommended Item 38.19 is a residual classification, it covers many other products dutiable under tariff items within the terms of Reference 120.

Two manufacturers of electrical equipment made representations about the chemical preparations used to coat the inside of fluorescent lamps and electronic tubes and about askarels. These products are not made in Canada and are both dutiable at rates of Free and 5 p.c., the first under end-use tariff item 220d, the second under end-use tariff item 220f. Both manufacturers requested retention of the present rates.

Under the Board's recommendation, tariff item 220f would remain unchanged and the present rates of Free and 5 p.c. would still apply to askarels. Rates of 10 p.c. and 15 p.c. would apply to the chemical preparations used to coat the inside of fluorescent lamps and electronic tubes.

Blends of tall oil and tall oil pitch without other admixture are at present duty-free under tariff item 585a. The Board recommends continued duty-free entry under both Tariffs.

Coal tar dye intermediates in solvents are now duty-free under tariff item 203e. The Board recommends continued duty-free entry under both Tariffs.

Cultured crystals other than optical elements; plasters specially prepared for dental uses; corrosion, rust, acid and salt inhibitors; metal processing, rolling and cutting oil and drawing compounds; and special soaps for paint removers are dutiable at rates of 15 p.c. and 20 p.c. either under tariff item 220a(i) or 711. For them and for all chemical products and preparations and residual products of the chemical or allied industries, not elsewhere enumerated, the Board recommends rates of 10 p.c. and 15 p.c.

Electrode pastes

Electrode pastes are made in Canada by one producer. They are mixtures of carbonaceous materials used in the manufacture of continuous carbon electrodes for electric furnaces. The best known is the "Soderberg paste."

The producer expressed doubt that electrode pastes are chemicals and within the terms of Reference 120. Formerly they were free of duty under tariff item 220g but at present they are dutiable under tariff item 711 at rates of 15 p.c. and 20 p.c.; the producer proposed continuation of these rates.

The Board recommends rates of 10 p.c. and 15 p.c.

Epoxy resin curing agents

These are hardeners for use with epoxy resins. Some are made in Canada. They may be imported free of duty under tariff item 901(a)4 or under tariff item 721 while deemed not to be produced in Canada. There is no published information on imports or consumption.

The Board recommends rates of 10 p.c. and 15 p.c.

Flotation agents

These materials are used by mining companies in the recovery of certain minerals. They are not made in Canada but were said to be interchangeable with cresylic acid and xanthates. The latter are made in Canada and cresylic acid, a mixture of phenols, cresols and xylenols, is also made in Canada.

Flotation agents appear to be dutiable at rates of 15 p.c. and 20 p.c. under tariff item 220a(i) or 711.

The Board recommends rates of 10 p.c. and 15 p.c. for flotation agents, including cresylic acid.

Fusel oil

This product is an impure amyl alcohol used mainly as a solvent in the paint industry, as a raw material in the production of amyl acetate and as a liquor flavorant. It is made in Canada. The Canadian market, including imports, amounts to less than \$100,000 annually.

Fusel oil is now free of duty under both Tariffs under tariff item 157a.

No proposal was made concerning this product.

The Board recommends duty-free entry under both Tariffs.

Hydrolyzed protein retarders

Protein retarders are of two types: hydrolyzed vegetable matter and hydrolyzed animal matter. Retarders extend the setting time in the production of plaster.

Hydrolyzed vegetable matter is derived from wheat gluten. It was made in Canada prior to 1955 by a wholly owned subsidiary of a flour mill. Production was discontinued when the product was found to be unsuitable but, following developmental work, it was expected to resume. The producer is reported to have ample supplies of the gluten to meet the Canadian requirements and the disposal of gluten is considered essential to the economic production of wheat starch.

Hydrolyzed animal matter is not made in Canada but is imported from the U.S.A. Its domestic production is not believed to be

economically feasible. Gypsum manufacturers are the main users of the retarder derived from hydrolized animal matter.

The two types of retarders are said to be interchangeable.

When for use as a retarder for calcined gypsum, hydrolized animal matter may be imported under an extract of tariff items 220a(i) or 711 at a rate of 10 p.c. under both Tariffs. The hydrolized vegetable retarder and the hydrolized animal retarder for uses other than for calcined gypsum are probably dutiable at rates of 15 p.c. and 20 p.c. under tariff items 220a(i) or 711.

A joint submission claimed that hydrolized animal matter could be made in Canada from domestic materials and proposed rates of 15 p.c. and 20 p.c. A large importer, manufacturer of gypsum, drew attention to the short supply of horns and hooves from which hydrolized animal matter is made and requested duty-free entry. He received support from another gypsum manufacturer.

The Board recommends continuation of the present rate of 10 p.c. under both Tariffs for hydrolized animal matter when for use as retarder and rates of 10 p.c. and 15 p.c. for hydrolized vegetable matter and for hydrolized animal matter when for use other than as retarder.

Mixed alkyl benzenes

The products under consideration are mixtures of dodecyl-, tridecyl-, and pentadecylbenzene. They are made in Canada by two companies and capacity was said to be more than sufficient to meet the demand. The most important is the detergent alkylate used in the manufacture of synthetic detergents. It is directly competitive with the fatty alcohols of Recommended Item 15.10 for which duty-free entry has been recommended. Other competitive chemicals are dodecyl phenol and nonyl phenol of Recommended Item 29.06 and ethylene oxide of Recommended Item 29.09 for all of which rates of 10 p.c. and 15 p.c. were recommended.

Imports of detergent alkylates, all from the U.S.A., have declined since production started in late 1957. They were over \$2 million in that year and they amounted to \$350,000 in 1963. Prices in Canada are comparable with those in the U.S.A. after allowance for the rate of exchange. Base prices in Britain are somewhat lower than in Canada and the U.S.A.; imports from that country are a source of apprehension for the Canadian producers.

Mixed alkyl benzenes or alkyl aryl hydrocarbons are specifically provided for and free of duty under tariff item 269b. Based on 1961 prices, the rate of duty into the U.S.A. would be equivalent to 50 p.c.

One of the two producers proposed rates of $7\frac{1}{2}$ p.c. and 10 p.c. for alkyl aryl hydrocarbons; the other made no representation.

The spokesman for two manufacturers of synthetic detergents who use detergent alkylates insisted that rates on the latter be equal

to those on fatty alcohols in order that a competitor who uses fatty alcohols in at least one of his formulations would not have an advantage over other manufacturers. Fatty alcohols are now duty-free and, as pointed out earlier, continuation of duty-free entry has been recommended. A user of dodecyl benzene for detergents agreed that rates of duty on detergent alkylates and fatty alcohols should be the same, whatever they are. There are indications that current concern about water pollution may reduce the proportion of detergents produced from mixed alkyl benzene in favour of those more readily biodegradable.

Prices in Canada are now competitive with those in the U.S.A. because of the exchange rate. This situation is liable to change. Furthermore, a tariff barrier prevents exports to the U.S.A., thus limiting exports of Canadian production.

The Board recommends rates of 5 p.c. and 10 p.c. on alkyl aryl hydrocarbons, unsulphonated reaction blends.

Molecular sieves

There is no production of molecular sieves in Canada. They are of two types: regular and chemically-loaded.

Molecular sieves are commercial adsorbents which find application in the purification of natural gas, in the manufacture of plastics and rubber, in air separation plants and in oil refineries.

No published data are available on consumption or imports. Molecular sieves are imported from the U.S.A. for resale in Canada by the Linde Gases Division of Union Carbide Canada Limited, which is believed to be the sole importer. This company is not a user but might become a manufacturer when the volume use in Canada justifies such manufacture.

The regular type of molecular sieves may be entered at rates of Free and 15 p.c. under tariff item 208t; the chemically-loaded type, at rates of 15 p.c. and 20 p.c. under tariff item 220a(i).

The Board recommends rates of 10 p.c. and 15 p.c. for both.

Monoglyceride emulsifiers

These products are used chiefly in the food industry. There are several types, depending on their monoglyceride content, and their interchangeability gave rise to discussion.

Two types of food emulsifiers are made for commercial sale in Canada by one producer: those of about 42 to 45 per cent monoglyceride content and those of about 67 per cent monoglyceride content. Those of 90 per cent or more monoglyceride content are not made in Canada but are imported from the U.S.A. for sale in Canada, by the subsidiary of a U.S. manufacturer.

Imports of food emulsifiers in 1963 were valued at \$835,000. There are no published statistics on the Canadian market.

Monoglyceride emulsifiers may be entered at rates of Free and 5 p.c. under an extract from tariff item 208t or 711.

Distilled monoglycerides, which contain more than 90 per cent monoglyceride, were believed to be appropriately classified in Recommended Item 29.14 as separate, chemically defined compounds. The two types made in Canada and the blends of distilled monoglycerides would be classified in Recommended Item 38.19.

The Canadian producer of the non-distilled monoglycerides proposed rates of 15 p.c. and 20 p.c. in order to offset higher raw material costs. The importer of distilled monoglycerides, supported by some users, did not see any need to change the existing rates.

The Board recommends rates of 10 p.c. and 15 p.c. for monoglyceride emulsifiers.

Naphthenic acids and their salts

Naphthenic acids are by-products of the refining of petroleum and certain bituminous mineral oils.

They are used extensively in the production of prepared driers; they may also be used as fungicides, emulsifying agents, demulsifying agents, flotation agents, lubricant additives, oxidation accelerators and plasticizers.

Imperial Oil Limited is the only manufacturer of naphthenic acids in Canada. The annual market is estimated at \$370,000, half of it supplied by the Canadian manufacturer. Imports originate mainly in Colombia, followed by the U.S.A. and Trinidad.

Two manufacturers of prepared driers pointed out that some naphthenic acid salts are driers which require only the addition of a solvent to become prepared driers.

Naphthenic acids are dutiable under tariff item 269(ii) at a specific rate of 1/3 cent per gallon under both Tariffs. For fungicidal use, naphthenic acids are free of duty under tariff item 219a (Recommended Item 38.11) or 791 (Recommended Item 19.35). The naphthenates of aluminum, barium, calcium and chromium are now entered under tariff item 208t at Free and 15 p.c. Other derivatives of naphthenic acids would be subject to entry either under tariff item 208t at rates of Free and 15 p.c. or under tariff item 711 at rates of 15 p.c. and 20 p.c.

The Board recommends rates of 10 p.c. and 15 p.c. for naphthenic acids and derivatives except the naphthenates of aluminum, barium, calcium and chromium for which rates of Free and 15 p.c. are recommended.

Plasticizer preparations

These preparations are blends of individual chemical plasticizers. Some are made in Canada, others are not. Among the latter is one described as the drum dried skimmings from the sulphate black liquor obtained as a residue from the sulphate process of making paper and used by cement manufacturers. It is now dutiable at rates of 15 p.c. and 20 p.c. under tariff item *228(ii), not in Reference 120.

Capacity was claimed to be adequate to supply the Canadian market for plasticizer preparations.

Blends of plasticizers are generally subject to rates of 15 p.c. and 20 p.c. under tariff items 220a(i) and 711; to rates of Free and 15 p.c. under tariff item 208t when a reaction blend of a kind not produced in Canada; and free of duty under tariff item 921 when of a kind not produced in Canada if for use in the manufacture of synthetic resins and plastics.

One producer proposed rates of 15 p.c. and 20 p.c. for all plasticizer preparations since they are or could be made in Canada. The Rubber Association of Canada objected to this proposal and a group of fabricators of polyvinyl chloride products urged continuation of free entry under tariff item 921.

The Board recommends free entry for the residual lyes from the manufacture of wood pulp by the alkali or sulphate processes and their skimmings, dried or not, and rates of 10 p.c. and 15 p.c. for all other plasticizer preparations.

Rubber antioxidant preparations

There are many types of rubber antioxidant preparations; several are made in Canada.

The Canadian market exceeds \$4 million; half is supplied by imports, mainly from U.S.A. but also from Britain, Germany and Holland.

In general, when they consist of single, chemically defined substances they are excluded from this Recommended Item; when they are reaction blends they are classified in tariff item 208t at Free and 15 p.c. if not of a kind produced in Canada and otherwise in tariff item 711 at 15 p.c. and 20 p.c.; if they are preparations of two or more substances they are classified in tariff item 220a(i) at rates of 15 p.c. and 20 p.c.; some appear to have been classified in tariff item 901(a)9 free of duty; all would be subject to free entry under end-use item 851 which would remain unchanged.

The Board recommends rates of 10 p.c. and 15 p.c. for the rubber antioxidant preparations of Recommended Item 38.19.

Seculate anti-condensation compound

This product is applied to pipes and tanks primarily to prevent the condensation of moisture from the atmosphere and secondarily to inhibit fungus formation. It is not made in Canada and may be imported at rates of 15 p.c. and 20 p.c. under tariff item 220a(i).

There was no specific proposal submitted about this product.

The Board recommends rates of 10 p.c. and 15 p.c.

Sorbitol fatty acid esters

The principal use of these products is in the food industry; they also find application in the cosmetic, pharmaceutical and petroleum industries. They are made in Canada by one producer and were reported to be directly competitive with glycerol monostearates in certain uses.

Imports may supply 10 per cent of the Canadian market.

Sorbitol fatty acid esters are dutiable at rates of 15 p.c. and 20 p.c. under tariff item 711, except for one type, sorbitan tristearate, which has not yet been ruled made in Canada and which may be entered at rates of Free and 15 p.c. under tariff item 208t.

The Canadian producer proposed rates of 15 p.c. and 20 p.c.

The Board recommends rates of 10 p.c. and 15 p.c. for all sorbitol fatty acid esters.

Specialty steel preparations

These preparations are not made in Canada. They are used in certain specialty type steels and may be imported free of duty under tariff item 208d or 490a, or at rates of 15 p.c. and 20 p.c. under tariff item 220a(i) or 711.

The Board recommends rates of 10 p.c. and 15 p.c.

Trisodium phosphate, chlorinated

Preparations of chlorinated trisodium phosphate would probably be classified under the present Recommended Item. It is produced in Canada by one producer only: the Diversey Corporation of Canada. This chemical is used in the manufacture of disinfectants and pesticides; it may be imported free of duty for this purpose under tariff item 219a (Recommended Item 38.11) or 791 (Recommended Item R-35).

The Board recommends rates of 10 p.c. and 15 p.c. for preparations of trisodium phosphate, chlorinated.

Vinsol emulsion

This product is an ingredient of a binder used by manufacturers of rock wool insulation. It is not made in Canada but is imported free of duty under tariff item 921.

Under the Board's recommendation it would be subject to rates of 10 p.c. and 15 p.c.

Vinyl resin stabilizer preparations

The only stabilizer preparations on which the Board received representations were those for use with vinyl resins.

There are probably more than 400 separate formulations of stabilizer blends; they are designed to meet particular applications, although competitive in a general way. Three types are made in Canada: lead derivatives; barium, cadmium and zinc soaps; organic phosphate combinations and organotin mercaptide. The tin type is of a kind not produced in Canada.

The Canadian market for vinyl resin stabilizer preparations in 1962 was estimated at \$1.5 million; more than half is supplied by imports.

Vinyl resin stabilizer preparations are subject to rates of 15 p.c. and 20 p.c. under tariff item 220a(i). They may be entered free of duty under tariff item 921 when of a kind not produced in Canada and when for use in the manufacture of plastics.

In general, it may be said that rates of 15 p.c. and 20 p.c. were suggested for the preparations of a kind made in Canada and free entry for those of a kind not so made by a producer when it was made to appear that it would be difficult to distinguish satisfactorily between stabilizers that were and those that were not of a kind produced in Canada.

The Board recommends duty-free entry for the tin-based stabilizers for synthetic resins and rates of 10 p.c. and 15 p.c. for other stabilizer preparations.

ARTIFICIAL RESINS AND PLASTIC MATERIALSRecommended Items 39.01 to 39.07Introduction

The plastics industry is relatively new. In the past quarter century it has experienced a great expansion, the world production increasing from 650 million pounds in 1938 to more than 23 billion pounds in 1964, an average growth of 14 per cent per annum which compares, over the same period, with a growth rate of 9 per cent for the aluminum industry and 5 per cent for steel. Initially conceived as substitutes for more costly conventional materials, the synthetic products are finding applications where none existed before and have become a very important element in modern living. There are now about twenty-five major families of plastics in commercial use and new products pour forth from laboratories in a seemingly never ending stream. Plastics are usually either thermosetting, which are fixed in a permanent form, or thermoplastic, which may be softened and reshaped repeatedly by the application of heat; the latter group is by far the larger.

The primary sector of the plastics industry is made up of a comparatively small number of firms which manufacture the basic resins, compounds and simple sheets while the secondary sector includes a large number of processors and fabricators who produce semi-finished and finished products. Many companies are only partly in the manufacture of plastics and carry on other industrial activities; some produce only primary forms, others produce only manufactured articles and some are integrated.

In 1964, Canada ranked eighth among the world's producers of plastics. Production was relatively insignificant prior to 1939; it grew to some 650 million pounds in 1964 of which 150 million pounds was for captive use. The primary sector numbered 29 establishments with shipments valued at \$139 million in 1963. In the same year, there were 299 establishments in the secondary sector with shipments valued at \$145 million. In addition to these shipments credited to the plastics industry itself, the value of the plastics produced by plants not principally engaged in the production of plastics was estimated at \$200 million.

Employment in the plastics industry in 1963 was 13,000 with about 3,600 in the primary sector and almost 10,000 in the processing and fabricating field. Wages paid were about \$56 million. The industry is concentrated in Central Canada. In 1963, only seven plants of the primary sector and fifty-nine processors and fabricators were located outside Ontario and Quebec. Sarnia, Ontario and Montreal, Quebec are the main producing centres of primary resins. Most of the primary resin producers are subsidiaries of U.S. corporations. Unlike the primary producers, the processors and fabricators are not tied geographically to petroleum refineries and are to be found in and around the large cities which constitute their principal markets; they operate on a much more modest scale and many plants are Canadian owned. There has been a definite trend in recent years on the part of the primary resin producers to enter into processing and fabricating operations and these integrated large-scale firms have become an increasingly important factor in the marketing of certain plastic products in Canada.

The total commercial consumption of resins in 1964 was reported to be about 536 million pounds with a value of more than \$100 million. Consumption in 1963 was 474 million pounds. These figures do not include all the captive production. A meaningful total for imports is difficult to arrive at because of the great variety of forms in which the resins are imported but it would appear that in 1964, 220 million pounds of resins in primary form were imported at an approximate value of \$60 million. Excluding captive use, imports would thus supply some forty per cent of the commercial requirements of the basic forms; imports of primary resins include many types that are not produced in Canada. In addition, about 40 million pounds of film and sheet and other processed forms with a value of \$33 million were imported in 1964; these imports do not include finished or final products. The total value of imports of the primary and processed forms would then approach \$100 million. Exports of plastics, mostly in primary forms, exceeded 150 million pounds valued at close to \$40 million in 1964, a considerable increase from 1962 when they amounted to just over 100 million pounds valued at \$27 million. Because of increased volume of production, prices of resins in Canada have declined steadily, as they have throughout the world.

The general structure of the Customs Tariff which now applies to synthetic resins and plastic materials is based on the recommendations made by the Board in its report on Reference 109 in April 1952. The Board then recommended a progressive type of tariff with the lowest rates of duty on the products of the earliest stages of manufacture and increasing rates at subsequent levels through to the finished product. These recommendations did not prove to be harmful to the industry which gives every indication of being in a remarkably healthy state. In the course of Reference 120, little evidence was found that the producers of primary resins in Canada were suffering hardship by reason of world overcapacity and higher production costs though fear of import competition was often expressed. The request for higher rates by the producers of resins was opposed by the secondary producers who claimed that increased rates of duty could lead to increased resin prices and thus weaken their position in the market; they referred to the impressive rate of growth of the primary sector as evidence of its ability to cope with competition from imports. The problem of overcapacity constitutes a potential threat to all resin producers, not just those in Canada; whether the Canadian market is more vulnerable to the impact of excess world supplies is not easy to determine. The Canadian market for synthetic resins and plastics has developed in spectacular fashion and exports have become significant; the available domestic market is often served by more than one producer. This suggests that the higher production costs due to the limited Canadian market and shorter runs might make the manufacture of certain resins and products uneconomical in Canada although the market in Canada is large enough to permit efficient production and economies of scale in the major types of resins. Because of limited Canadian requirements, reasonable access to foreign supplies for certain specialty resins and for new products developed abroad seems essential to the Canadian users; these specialty resins and new products probably constitute a substantial share of the imported resins.

The higher level of duty that applies to some of the materials used in making the resins than to the resins themselves constitutes a problem which confronts the producers of the resins. For the most part,

the producers of primary plastics did not oppose the duty on the materials because many are also large producers of other chemicals.

The importation of off-grade and scrap material is of particular concern to certain sections of the domestic plastics industry and it was claimed that the valuation provisions of Section 38 of the Customs Act provide little relief from imports of this kind.

The rate proposals made to the Board concerning the plastics industry are discussed in the following Recommended Items. In general, it may be said that the producers of the primary sector urged rates of 15 p.c., B.P. and 20 p.c., M.F.N. with a minimum per pound in some cases, on primary resins whether made in Canada or not; the secondary sector strongly opposed increases on primary resins and compounds and received the support of a number of trade Associations and two organizations of overseas suppliers, the British Plastics Federation and the Japan Plastics Industry Association.

Recommended Items 39.01 and 39.02

Because Recommended Item 39.01 and Recommended Item 39.02 are closely related, similar in structure and generally governed by rather similar considerations, the Board has varied its usual format for these two items.

First there is a summary of the information relating to the products of Recommended Item 39.01; this is followed by a similar summary relating to the products of 39.02.

Following these two summaries the Board outlines its conclusions and recommendations relating to both items, thus avoiding much of the repetition which would have been involved were the conclusions and recommendations made in relation to each item separately.

Recommended Item

B.P. M.F.N. G.T.

39.01 Condensation, polycondensation and poly-addition products, whether or not modified or polymerised, and whether or not linear (for example, phenoplasts, aminoplasts, alkyds, polyallyl esters and other unsaturated polyesters, silicones):

(a) Without admixture other than an agent necessary to prevent caking, including scrap and waste; aqueous emulsions, aqueous dispersions or aqueous solutions, without other admixture:

1. Other than the following types	Free	Free	10
2. Alkyd type	10	10	20
3. Epoxy type	10	10	20
4. Melamine formaldehyde type	10	10	20

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
39.01 (a) (Cont'd) (Cont'd)			
5. Phenol formaldehyde type	10	10	20
6. Polyamide epichlorohydrin type	$7\frac{1}{2}$	$7\frac{1}{2}$	20
7. Polyamide type, other than enumerated in this paragraph (a)	10	10	20
8. Polycaprolactam type	$7\frac{1}{2}$	$7\frac{1}{2}$	20
9. Polyether type	10	10	20
10. Polyethylene terephthalate type	10	10	20
11. Unsaturated polyester type	10	10	20
12. Urea formaldehyde type	$7\frac{1}{2}$	$7\frac{1}{2}$	20
(b) In organic solvents, where the weight of the solvent does not exceed 50 per cent of the weight of the solution, without other admixture:			
1. Other than the following types	$7\frac{1}{2}$	$7\frac{1}{2}$	20
2. Alkyd type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
3. Epoxy type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
4. Melamine formaldehyde type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
5. Phenol formaldehyde type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
6. Polyamide type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
7. Polyethylene terephthalate type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
8. Unsaturated polyester type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
9. Urea formaldehyde type	10	10	20
(c) Moulding compositions, n.o.p., including scrap or waste, whether or not completely formulated; such compositions in the form of not fully cured preforms for compres- sion moulding:			
1. Other than the following types	Free	Free	10
2. Epoxy type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
3. Melamine formaldehyde type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
4. Phenol formaldehyde type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
5. Polyamide type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
6. Polyurethane type	$7\frac{1}{2}$	$7\frac{1}{2}$	25
7. Silicones	$7\frac{1}{2}$	$7\frac{1}{2}$	25
8. Unsaturated polyester type	$12\frac{1}{2}$	$12\frac{1}{2}$	25
9. Urea formaldehyde type	10	10	25
(d) Compositions, n.o.p., composed entirely or predominantly of the condensation, polycondensation and polyaddition materials of paragraph (a) of this item	15	15	25
(e) Admixed with other materials to form glues or adhesives pack- aged or in bulk	15	$17\frac{1}{2}$	25

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
39.01 (f) Foamed and expanded, in logs, (Cont'd) sheets, blocks, boards, flakes, granules, powder, shreds, scrap or waste	15	15	25
(g) Plates, sheets, film, sheeting, strip; lay-flat or other tubing, blocks, bars, rods, sticks, non- textile monofilament and other profile shapes imported in lengths, all produced in uniform cross-section:			
1. Other than the following types	Free	Free	10
2. Epoxy type	17½	17½	25
3. Melamine formaldehyde type	17½	17½	25
4. Phenol formaldehyde type	17½	17½	25
5. Polyamide type	17½	17½	25
6. Unsaturated polyester type	17½	17½	25
7. Urea formaldehyde type	17½	17½	25

This Recommended Item would cover synthetic resins produced by the processes described in its wording. Most types are thermosetting. Excluding captive use, their commercial consumption in 1964 was estimated at more than 131 million pounds valued between \$30 and \$40 million. In that year, the commercial production was 102.4 million pounds, the imports were 30.2 million pounds and the exports, almost 1.5 million pounds. The captive production appears to be about 100 million pounds.

The alkyd resins include glyceromaleic resins and glycerophthalic resins and certain tall oil modified alkyd resins; their principal use is in protective coverings; most of the Canadian production consists of solutions in organic solvents and is made by batch processes; in 1963 there were at least six producers for merchant sales and a dozen paint companies were engaged in captive production. Productive capacity was said to be ample for domestic needs. Alkyd resin moulding compounds are not produced in Canada and have only a limited use. In 1964, commercial production of the resins amounted to about 21 million pounds, imports were nearly 6.5 million pounds and exports were small. Commercial consumption is therefore in the vicinity of 28 million pounds but it is estimated that the paint industry consumes 60 to 65 million pounds; consequently more than half the Canadian production is captive. Very little is sold in Canada without solvent. Nearly all imports are from the U.S.A. and though sometimes higher priced they are imported because users demand specified formulations produced abroad. Canadian prices are comparable to those in the U.S.A. and occasionally somewhat lower. The alkyd resins now qualify for entry under a variety of tariff items: as resins without admixture, under 901(a)3 at 5 p.c. or 901(a)7, free of duty; as resins in water, under 901(b)3 at 5 p.c. or 901(b)7, free of duty; as resins in organic solvents, under 901(c)3 at 12½ p.c. or 901(c)4 at 12½ p.c.; when containing an anti-caking ingredient, under 901(d)2 at 10 p.c.; as resins compounded with other materials, under 902(b) at 5 p.c.; as

resin compositions, n.o.p., under 904 at 15 p.c.; as plates, sheets, etc., not less than 6 inches in width, under 905f(2) at 10 p.c., and if less than 6 inches in width, under 906(e) at 15 p.c. The Canadian Paint Varnish & Lacquer Association on behalf of the paint companies producing captively and four producers (Canadian General Electric, Reichhold Chemicals (Canada), Schenectady Varnish Canada Ltd. and Minnesota Mining) proposed rates of 15 p.c. and 20 p.c.; the Canadian Manufacturers of Chemical Specialties Association proposed rates of 5 p.c. and 10 p.c. and Harrison & Crosfield (Canada) Ltd. proposed continued free entry for the alkyd resins without admixture and $12\frac{1}{2}$ p.c. for those containing solvent. The proposals were supported only in rather general terms.

The aminoplasts or amino resins, formed by the condensation of amines or amides with aldehydes, include aniline formaldehyde resins (anilinoplasts), ethylene urea resins, melamine formaldehyde resins, thiourea formaldehyde resins and urea formaldehyde resins; of these, the most important -- and the only two concerning which representations were made specifically -- are the melamine formaldehyde resins and the urea formaldehyde resins. The aminoplasts are entered under a number of tariff items: as resins without admixture, under 901(a)2, free of duty; as resins in water, under 901(b)2, free of duty; as resins in organic solvents, under 901(c)2, at $12\frac{1}{2}$ p.c.; when containing an anti-caking ingredient, under 901(d)1, free of duty; as moulding compounds, under 902(f), free of duty; as synthetic glues or adhesives when compounded with other materials, under 903 at 15 p.c. and $17\frac{1}{2}$ p.c.; as resin compositions n.o.p., under 904, at 15 p.c.; as plates, sheets, etc., not less than 6 inches in width, under 905(f)1 if plain, uncoated, undecorated, free of duty, and under 905(f)2, if other, at 10 p.c. and if less than the six inches, under 906(e) at 15 p.c.; if foamed or expanded, under 907 at 15 p.c. and 20 p.c.; in laminated moulded products, under 916 at 15 p.c. and in other reinforced or supported products, under 917(b) at 15 p.c. On most of the basic chemicals entering into the cost of production of these resins, the rates the Board is recommending are 10 p.c. or 15 p.c. under the M.F.N. Tariff.

The melamine resins, more than most thermosetting materials, are resistant to water and heat, durable and versatile; of their many uses, the more important are in the manufacture of dinnerware, decorative laminates for buildings, adhesives, textile treatment, wet strength paper and fast drying enamels. Until 1963 four firms produced only liquid melamine resins; in 1963 one of them, Cyanamid of Canada became the only producer of melamine and melamine formaldehyde moulding compounds and of moulded consumer products; there are at least two other manufacturers of laminates. Consumption of melamine resins in Canada, in 1964, was in excess of 11 million pounds. Production in Canada was estimated, in the same year, to be 7 million pounds. Imports have been declining: 6.5 million pounds in 1962, 6 million pounds in 1963 and 4.7 million pounds in 1964 valued at \$1.6 million; nearly all imports were from the U.S.A. There have been no appreciable exports.

The urea formaldehyde resins are used in the production of moulding compounds; in aqueous solutions, they are used as an adhesive in the plywood and furniture industries; they also have uses in textile, paper and paint industries. By 1964, thirteen companies operating 17

plants were manufacturing urea resins in various forms. Though capacity is difficult to determine, in 1963 the Board was informed that it appeared sufficient to meet domestic needs. In 1962 and 1963 consumption was estimated to exceed 17 million pounds annually; over half of this consumption, valued at close to \$1 million, is used in the production of adhesives for plywood, largely in Western Canada, and chip-board. In 1963 the value of shipments was close to \$2.6 million. Imports were reported to be mostly in the form of moulding compounds (only manufactured in Canada since 1963) and adhesive resins; in 1962 they were valued at \$2.3 million. Most melamine prices in Canada have been lower than in the U.S.A., though in the field of moulding compounds they are about equal.

The Industry Committee, the Canadian Paint Varnish and Lacquer Association on behalf of Canadian paint companies producing the resins and emulsions for captive use, and five other producers (Cyanamid, Hercules, Monsanto, Reichhold and Borden Chemical) proposed rates of 15 p.c. and 20 p.c. The plywood industry proposed the continuation of the free entry now given under tariff items 901(b)2 and 901(d)1, as did other plywood, paper and lumber interests and nine other consumers. The conflicting pleas were supported in rather general terms without specific indication of the need for changes in rates or their probable effects.

The epoxy resins are used in surface coatings, adhesives, the encapsulation of electric components and in laminated products. They are produced in Canada by Shell Oil Co. of Canada and the Union Carbide Canada Ltd.; Reichhold Chemicals (Canada) produces epoxy ester resins in organic solvents. In 1964 a trade publication estimated the Canadian market at 3.4 million pounds: domestic production at 2.6 million, imports at 2 million and exports at 1.2 million; more than two-thirds of the domestic consumption is used in protective coatings. In the existing Tariff, no special provision is made for epoxy resins; they are eligible for entry as resins without admixture, under 901(a)9, free of duty; as resins in water, under 901(b)8, free of duty; as resins in organic solvents, under 901(c)5, at 10 p.c.; when containing an anti-caking ingredient, under 901(d)2, at 10 p.c.; as moulding compounds, under 902(f), free of duty; as glues or adhesives, under 903, at 15 p.c. and $17\frac{1}{2}$ p.c.; as other resin compositions, under 904, at 15 p.c.; as plates, sheets, etc., not less than 6 inches in width, under 905(f)1, free of duty and if less than 6 inches in width, under 906(e) at 15 p.c.; as foamed or expanded resins, under 907, at 15 p.c. and 20 p.c.; as laminated moulded plastics, under 916, at 15 p.c.; and as other reinforced or supported products, under 917(b) at 15 p.c. The Shell Oil Company made no representations. Union Carbide and Reichhold proposed rates of 15 p.c. and 20 p.c. CIBA Company Ltd. a supplier of imported epoxy resins, proposed that there be no increase in rates, more particularly the free entry for resins under tariff item 901(a)9, the free entry for curing agents under item 921 and the 10 p.c. rate for resins in solvents under tariff item 901(c)5.

The phenoplasts or phenolic resins are derived from the condensation of phenol, or substituted phenols, with aldehydes. They include such resins as certain oil-soluble resins, phenol acetaldehyde, phenol formaldehyde and phenol furfural (phenol furfuraldehyde). They are the most extensively used thermosetting plastics and are widely used as moulding materials and as bonding or

adhesive agents. Of the phenoplasts, the major portion, at least 75 per cent, was said to be phenolformaldehyde resins. Phenoplasts are now manufactured in Canada by ten companies in about fourteen plants. The rate of expansion in the phenoplasts, an older branch of the plastics industry, though substantial, has been less spectacular than with some other plastics and this branch of the plastics industry is the third or fourth largest in Canada. In 1963 the market was for 55 million pounds of which over 6 million pounds were imported; about 60 per cent of the consumption was in adhesives for plywood, hardboard and woodmaking. Imports appear to supply about 10 per cent of the domestic market. Exports were said to be equivalent to about 5 or 6 per cent of the domestic market. Prices in Canada were said to be higher but within three or four per cent of the prices in the United States. The phenoplasts are entered largely under the following tariff items: as pigments, binders therefor, etc., under 203d free of duty; as resins without admixture, under 901(a)1 at $7\frac{1}{2}$ p.c. and under 901(a)7 free of duty; as resins in water, under 901(b)1 at $7\frac{1}{2}$ p.c.; as resins in organic solvents, under 901(c)1 at $12\frac{1}{2}$ p.c.; when containing an anti-caking ingredient, under 901(d)2 at 10 p.c.; as moulding compounds, under 902(a) at 10 p.c. and 15 p.c.; as glues or adhesives, under 903 at 15 p.c. and $17\frac{1}{2}$ p.c.; as other resin compositions under 904 at 15 p.c.; as plates, sheets, etc., not less than 6 inches in width, under 905(a) free of duty, and if less than 6 inches in width, under 906(a) free of duty; as foamed and expanded resins, under 907 at 15 p.c. and 20 p.c.; as laminated moulded plastics, under 916 at 15 p.c.; as other reinforced or supported products, under 917(b) at 15 p.c. and as resins without admixture or in water without admixture, for use in the manufacture of plywood, under 925 free of duty.

Five of the six phenolic resin producers that made submissions proposed rates of 15 p.c. and 20 p.c.; one, voicing "substantial" agreement with this proposal, sought continuation of the free entry provisions of end-use items 922 and 925. One producer proposed free entry for phenolic resins and for their raw materials under existing end-use items 921, 922 and 925. Dow Chemical, a manufacturer of phenol, and Shawinigan Chemicals, a manufacturer of both phenol and formaldehyde, proposed rates of 15 p.c. and 20 p.c. for both products. The consumers were generally opposed to any rate increases; Abitibi Power and Paper proposed continued rates of $7\frac{1}{2}$ p.c. on the resins and continued free entry under end-use item 925; Jamar Flakeboard proposed free entry; the Plywood Manufacturer Association of British Columbia, on behalf of eleven companies and supported by the Poplar Plywood Association and the Canadian Lumbermen's Association, proposed the retention of end-use item 925 and free entry for the raw materials for phenol-aldehyde resins. The Pulp and Paper Association, the Rubber Association of Canada and the moulders opposed any rate increases. Nine companies proposed free entry for phenoplasts of a kind not made in Canada and a rate of 5 p.c. for those of a kind made in Canada. Thermoset Plastics proposed free entry for phenolic compounds. The Primary Textiles Institute sought continuation of free entry under the end-use provisions of tariff item 203d. Harrisons & Crosfield (Canada), an importer, sought continued free entry for certain rosin esters, phenol-aldehyde modified, under tariff item 901(a)7 and continued rates of $12\frac{1}{2}$ p.c. for the products with solvent under 901(c)4. The producers stressed their capacity to meet the needs of the domestic market which, because of its relatively small size, they contended should be reserved to them to minimize costs; they expressed concern over the fact that

the duty on their raw materials was sometimes higher than on the resins; one producer expressed the view that production of resins on the West Coast was not threatened by foreign competition because it was on a larger scale. Other producers urged that rates of 15 p.c. and 20 p.c. would not harm the plywood exporters because of the export drawback provisions and that the plywood manufacturers could make their own resins were undue advantage taken of customs duties. The plywood manufacturers opposed duties because of their effect on costs and stressed the ability of the resin producer to meet competition under existing rates. The moulders were naturally apprehensive concerning increased duties on their materials without corresponding increases on their products. Canadian production in the West is largely in the form of an aqueous solution for the plywood industry from plants close to consumption centres and thus are sheltered in part from competition from remote plants because of the cost of transportation of the water in the solution. Production in Central Canada is more diversified, particularly in the field of moulding resins and compounds; in addition there is a good deal of captive consumption; the duties must be weighed in the scale with those applicable to the raw materials and to the final product; the proposed rates of 15 p.c. and 20 p.c. were largely supported by the argument that they were being proposed generally and now apply to many raw materials; under the Board's recommendations these prevailing duties of 15 p.c. and 20 p.c. for some raw materials would be largely reduced to either Free or 10 p.c. under the B.P. Tariff and to 15 p.c. under the M.F.N. Tariff.

The polyamides and super-polyamides were the subject of representations largely in relation to nylon; two types of nylon are used in Canada: nylon 6/6 by Du Pont and Millhaven Fibres (a jointly owned subsidiary of C.I.L. and Chemcell) and nylon 6 by Courtauld's and Union Carbide. The two polymers are mainly used in the extrusion of nylon filaments for the production of synthetic textiles and tire cord and most of the remainder is used in moulding powders. The nylon 610 polymer is imported for the production of monofilaments and brush bristles. The only other polyamide production in Canada appears to be that of polyamide epichlorohydrin by Hercules Powder (Canada) Ltd. for use in the paper industry; the producer stated that it had ample capacity to meet domestic requirements. Of the other polyamides, the one of greater commercial significance in Canada is the "Versamid" type. Du Pont produces the nylon 6/6 polymer; Courtauld's is reported to import polycaprolactam, the nylon 6 polymer, and Union Carbide stated its intention of making its polycaprolactam, probably importing the caprolactam salt. There is discussion of the nylon intermediates in Recommended Item 29.22 where rates of 10 p.c. and 15 p.c. are recommended for hexamethylene diamine and hexamethylene diammonium adipate and rates of Free and 15 p.c. for hexamethylene diammonium sebacate. The Canadian market, according to trade publications, appears to be in the neighbourhood of 50 million pounds with a value exceeding \$80 million. However the amount of the polymer in the commercial market is relatively small because of the large captive use by Du Pont, the major producer. There are imports of nylon 6, largely from West Germany, for moulding purposes and in the form of non-textile monofilaments; there are also imports of nylon or other polyamides for button moulding, printing ink, adhesives and protective coatings. Published data on nylon resins in the secondary plastics industry -- about 10 per cent of the total -- in 1964 show about 650,000 pounds produced in Canada, 150,000 pounds imported, 50,000

pounds exported and 750,000 pounds consumed. Canadian prices for polyamides were said to be comparable to those in the U.S. and lower than those in Britain.

The polyamides are now entered under several tariff items; as resins without admixture, under 901(a)4 free of duty; as resins in water, under 901(b)4 free of duty; as resins in organic solvents, under 901(c)5 at 10 p.c.; as moulding compounds, under 902(f) free of duty; as resin compositions, n.o.p., under 904 at 15 p.c.; as plates, sheets, etc., not less than 6 inches in width, under 905(f)1 if plain, uncoated, undecorated, free of duty, and, if other, under 905(f)2 at 10 p.c.; if less than 6 inches, under 906(e) at 15 p.c.; in laminated moulded products, under 916 at 15 p.c.; and in other reinforced or supported products, under 917(b) at 15 p.c. As pins or pegs used as bristles in the manufacture of bristles, polyamides may be entered under tariff item 654a, at Free and 5 p.c.

Proposals for nylon polyamides were made by several companies -- Du Pont for 25 p.c. and 30 p.c., and the same rates for all polyamides, Courtauld's for free entry of polycaprolactam pending Canadian production, Union Carbide for 5 p.c. on the caprolactam monomer while not produced in Canada and 15 p.c. and 20 p.c. on the polymer, C.I.L. (one of the joint owners of Millhaven Fibres Ltd.) for general rates of 15 p.c. and 20 p.c. and Canadian Buttons Ltd. for no change in rates. Proposals for the other polyamides were also made by several companies -- Hercules Powder for 15 p.c. and 20 p.c. on polyamide type resins without admixture, Caledonia Chemicals for free entry pending Canadian production, Paisley Products for rates of 5 p.c. and 20 p.c. and W.R. Grace Co. for continuation of the status quo on polyamide resin and film. Du Pont's proposal -- also discussed in Recommended Item 29.22 in relation of nylon intermediates -- was designed to ensure the supply of both nylon intermediates and nylon resins from domestic production; at the time the proposal was made Du Pont was the sole producer of both and sought rates of 25 p.c. and 30 p.c.; the prospective expiry of certain of the company's patents, at the time of the hearing in 1963, gave it some concern; it argued that the proposed rates would not increase prices but merely preserve the domestic market for domestic production because the price would be controlled by the nylon duties in the textiles portion of the tariff; however the company nevertheless expressed concern about foreign cost advantages which might displace Canadian production thereby preventing a volume increase capable of lowering unit costs in Canada. Du Pont's concern for its position, even with rates of 25 p.c. and 30 p.c., was equally matched by the concern of Courtauld's and Union Carbide for their position if such large increases in rates were implemented; both the latter companies are involved in the production of nylon 6 fibre and were apprehensive about the application of such rates on their raw materials. Courtauld's stressed the lack of Canadian production of caprolactam monomer and caprolactam polymer in urging free entry for the latter; it urged that Du Pont's absence of concern about other competitive intermediates such as those for polyester and polypropylene pointed to a desire to retain the market for the incumbent producer and to prevent competition. Generally in agreement with Courtauld's, Union Carbide in urging rates of 5 p.c. on the caprolactam monomer and 15 p.c. and 20 p.c. on the polymer, suggested the latter rates to be suitable because of the competition between the two nylons, nylon 6 and nylon 66; it did not however view the raw materials, caprolactam

and nylon 6 salt (hexamethylene diammonium adipate) to be competitive and, because of the lack of Canadian production, urged that the caprolactam should bear only the nominal rate of 5 p.c. Canadian Buttons proposed free entry for nylon moulding powders because the types of powders it used were not available from Canadian production but withdrew its request on learning that the compounds were available from Canadian manufacture.

For the nylon non-textile monofilament, now dutiable under tariff item 906(e) at 15 p.c., Du Pont proposed rates of 15 p.c. and 20 p.c.; Du Pont produces such monofilament in the range of 0.5 to 2 mm. for brush bristles from nylon 66 and nylon 610; in such production they compete with monofilaments of nylon 6, polypropylene, polystyrene and natural bristles. The Company sought these rates to prevent dilution of the proposed higher duty on the two nylons urging that the higher rates proposed for the nylons themselves are not needed on the monofilament because of its higher dollar value; Du Pont reported the imported monofilament of nylon 6 to be priced about 25 p.c. below the company's price; Germany was said to be the major source of these imports and an agent for a producer in Germany urged that his principal's product was different in quality from Du Pont's production and that consequently the proposed increase was not justified.

A classification problem arises with respect to the non-textile monofilaments. The B.T.N. classifies monofilaments of over 1 mm. in diameter under Chapter 39 (Plastics) and monofilaments with a cross-section of 1 mm. and less, under Chapter 51 (Textiles). The monofilaments of 1 mm. or less constitute 95 per cent of Du Pont's production of monofilaments and the company included all non-textile monofilaments, regardless of size, in their proposal for rates of 15 p.c. and 20 p.c.

For the other polyamides, Hercules Powder Company (Canada) Ltd., a producer of polyamide-epichlorohydrin resins in aqueous solution, proposed rates of 15 p.c., B.P. and 20 p.c., M.F.N. for the resins entered under tariff item 901(b)4 in order to prevent the importation of competitive products. Caledonia Chemicals Ltd. urged that polyamide resins of the non-nylon type remain free of duty because of their difference in most respects from the nylon resins and because neither the resins nor the raw materials are made in Canada; however there appears to be a departmental ruling that polyamide resins and moulding powders are of a class or kind made in Canada, though they are largely subject to free entry. Paisley Products of Canada Ltd. requested heading rates of 5 p.c., B.P. and 10 p.c., M.F.N. for B.T.N. 39.01, and rates of 15 p.c., B.P. and 20 p.c., M.F.N. for polyamide-type materials. W.R. Grace & Co. of Canada Ltd. proposed that the existing rates remain unchanged for the products of B.T.N. heading 39.01.

The term polyester encompasses a broad range of resins; it includes unsaturated polyesters, such as the alkyds, discussed separately above, and saturated polyesters referred to as linear polyesters and polyurethanes. Alkyds may be described as oil-modified polyesters; the other saturated polyesters are sometimes called oil-free alkyds. The broad main dividing line in the Brussels Nomenclature is between linear and unsaturated polyesters.

The only linear polyester brought to the Board's attention as significant in Canadian commerce was polyethylene terephthalate; its principal uses are in the production of textile fibres and of films. The resin is made in Canada by Canadian Industries Ltd. for its own use in producing polyester staple fibre, tow and filament yarn for the textile industry. Productive capacity was represented as adequate to supply foreseeable Canadian requirements and to supply exports; this capacity is reported to be well in excess of its original 10 million pounds annually. The same product is known in the U.S.A. as "Dacron"; a competitive co-polymer of terephthalic acid, "Kodel", is produced in the U.S.A., Germany and Japan. There are only occasional -- but sometimes substantial -- exports, partly because of patent control; there appear to be no imports, though there are imports of competitive polyester fabrics and copolymer fibres; there is also competitive importation of fibres such as acrylics, nylons and polypropylene. The polyethylene terephthalate film is not produced in Canada; it is imported largely from the U.S.A. and Britain, ("Melinex" in Britain and "Mylar" in the U.S.A.); the film market in Canada for 1962 was estimated at close to three-quarters of a million pounds.

The polyethylene terephthalate resin and film are subject to entry under the following tariffs: as resins without admixture, under 901(a)3 at 5 p.c.; as moulding compounds, under 902(b) at 5 p.c.; as resin compositions, n.o.p., under 904 at 15 p.c.; as plates, sheets, film, etc., not less than 6 inches in width, under 905(f)1 if plain, uncoated, undecorated, free of duty, and under 905(f)2, if other, at 10 p.c.; and if less than 6 inches in width, under 906(e) at 15 p.c.; in laminated moulded products, under 916 at 15 p.c.; and in other reinforced or supported products, under 917(b) at 15 p.c. For the resins, C.I.L. proposed rates of 15 p.c. and 20 p.c.; for the film, Imperial Chemical Industries proposed free entry under the British Preferential Tariff until there was Canadian production; Deerfield Laminations Ltd. proposed an amendment to tariff item 905 providing free entry for the plain, uncoated and undecorated and the film coated with vinyl type, vinylidene, 20 p.c. for the film coated with polyethylene and 10 p.c. for other film; W.R. Grace proposed that the existing rates be retained; Minnesota Mining proposed that the film plain and coated including laminates for conversion into emblems and signs be free of duty until made in Canada and when made in Canada, dutiable at 15 p.c. and 20 p.c.; Canadian Kodak proposed free entry for photographic base film which is not made in Canada and ANSCO proposed free entry for both unsensitized and unfinished sensitized film.

C.I.L. sought rates high enough to defer the entry of a second fibre producer until the market became large enough to support two producers; it urged that prices would not increase because of competition from similar products and that without the proposed rates there could be imports of the resins for the domestic production of yarns; Imperial Chemical Industries foresaw no film production in Canada and considered that customs duties would therefore increase costs unnecessarily. Deerfield Laminations were said to produce about 60 per cent of all polyethylene-coated polyester film sold in Canada, the remainder being imported from the U.S.A.; it was concerned that the particular type of film it imported for coating with polyethylene was dutiable at the same 10 p.c. rate under 905(f)2 as the polyethylene-coated film and sought rate differentiation to encourage domestic production and export plans.

Unsaturated polyester resins are varied, possess varied qualities and are available in many forms; they combine with a variety of other materials to make a wide range of reinforced plastic products. They are made in Canada by seven main producers and perhaps an equal number of small producers; unlike the alkyds, the users do not produce captively. Most capacity estimates were in the neighbourhood of double the Canadian consumption; in 1964, production exceeded 9 million pounds. In the same year Canadian consumption was estimated at close to 12 million pounds of which 2.6 million pounds were imported. In 1964 over 80 per cent of the use was in reinforced plastic moulding materials. Almost all imports are from the U.S.A. and the standard types sell for about 30 cents per pound. The imports of shapes were said to be valued at "several million dollars"; exports are small. Generally Canadian prices were considered to be competitive with imports in the spring of 1963; in British Columbia import competition appears stronger because of United States production on the Pacific Coast.

The unsaturated polyester resins are dutiable under various tariff items: as resins without admixture, under 901(a)3 at 5 p.c.; as resins in water, under 901(b)3 at 5 p.c.; as resins in organic solvents, under 901(c)3 at 12½ p.c.; as moulding compounds, under 902(b) at 5 p.c.; as resin compositions, n.o.p., under 904 at 15 p.c.; as plates, sheets, etc., not less than 6 inches in width, under 905(f)1 if plain, uncoated, undecorated, and under 905(f)2, if other, at 10 p.c. and if less than 6 inches in width under 906(e) at 15 p.c.; in laminated moulded products under 916 at 15 p.c.; and in other reinforced or supported products, under 917(b) at 15 p.c. The six producers who made representations proposed rates of 15 p.c. and 20 p.c. Retention of the existing rate of 5 p.c. under 901(a)3 was urged by Canadian Buttons Ltd. for a special but unidentified type which it imports, and by Hooker Chemical for fire retardant resins not made in Canada. The producers urged the inadequacy of the prevailing rates in the face of excess capacity, a small domestic market and import competition.

The polyurethane resins are used principally in flexible and rigid foams produced by what are described as "one-shot" and "two-shot" techniques. Other uses include liquid casting materials, gum polymers, spandex fibres and protective coatings. Rigid foams have a density of from 2 to 15 pounds per cubic foot; the denser forms are used for boat floatation and packaging, the less denser forms, as foam-core wall panel construction, refrigeration, trailers, railroad cars and storage tanks. Flexible foams have densities ranging from 1.3 to 2 pounds per cubic foot; their main applications are in the production of cushioning for furniture and automobiles, specialty packaging operations, toys and other novelties. Polyurethane foams are made in Canada.

Almost all the polyurethane resin used in Canada is in the form of foam, about 80 per cent in the form of flexible foam. In 1962, the Canadian shipments of polyurethane foams were estimated by the D.B.S. to have been in the vicinity of 8 million pounds. The market was expected to expand rapidly. Because of its bulk, foam is unlikely to be shipped long distances and such imports as there may be other than scrap or finished products are likely to be of prepolymers or of resins.

Interest in polyurethanes was recorded in a number of submissions by producers, users and importers.

Certain forms of polyurethanes are not within the scope of Reference 120, being classified as synthetic rubber under tariff items *616 and *618; moreover, plastic cellular expanded or foamed clippings of polyurethane foamed were held, on appeal to the Board, to be "waste of all kinds" as provided for in tariff item *681.

Polyurethane resins may be entered under the following tariff items: as resins without admixture, under 901(a)9, free of duty; as resins in water, under 901(b)8, free of duty; as resins in organic solvents, under 901(c)5, at 10 p.c.; as moulding compounds, under 902(f), free of duty; as compositions, n.o.p., under 904, at 15 p.c.; as plates, sheets, etc., not less than 6 inches in width, under 905(f)1 if plain, uncoated, undecorated, free of duty and, under 905(f)2, if other, at 10 p.c., and if less than 6 inches in width, under 906(e), at 15 p.c.; and if foamed or expanded, under 907 at 15 p.c. and 20 p.c. The Canadian producers proposed rates of 15 p.c. and 20 p.c. for the forms of interest to them; the consumers or importers, with one exception, proposed either free entry or no change for the forms not made.

The more important raw materials used in the production of polyurethane resins are now free of duty under the end-use provisions of tariff item 921, except for toluene diisocyanate which is entered under tariff item 711 at rates of 15 p.c. and 20 p.c. Under the Board's recommendations, diisocyanates such as toluene diisocyanate would be subject to rates of Free and 15 p.c. under Recommended Item 29.30; ethylene oxide, now free of duty for this purpose under tariff item 923 would be subject to rates of 10 p.c. and 15 p.c. under Recommended Item 29.09; propylene oxide, now subject to rates of 15 p.c. and 20 p.c. under tariff item 711 would be subject to rates of 10 p.c. and 15 p.c. under Recommended Item 29.09.

Polyurethane synthetic bristles, not made in Canada, are dutiable at rates of 15 p.c. under tariff item 906(e). An importer proposed no change in rates but his request was opposed by Du Pont of Canada Limited which claimed that this product is directly competitive with the nylon monofilament it produces in Canada.

Silicones are organosiloxane polymers; they are used in the production of protective coatings, glass cloth laminates and electrical insulating varnishes. They are not produced in Canada but are imported for the production of compounds. A trade publication estimate of the Canadian market for 1962 was 1.5 million pounds with a value of over \$4 million. Apart from the plastics portion of the Customs Tariff, silicones are now subject to entry under items 203a, free of duty; 208t, at Free and 15 p.c.; 220a(i) at 15 p.c. and 20 p.c.; 249, at 15 cts. per gallon and 5 p.c. and 15 p.c.; *272a, at 12½ p.c. and 15 p.c.; *616(1), at Free and 5 p.c.; *618, at 15 p.c. and 20 p.c.; 711, at 15 p.c. and 20 p.c.; and 851, free of duty. Among the items dealing with plastics, silicones are entered as resins without admixture, under 901(a)9, free of duty; as resins in water, under 901(b)8, free of duty; as resins in organic solvents, under 901(c)5, at 10 p.c.;

as moulding compounds, under 902(f), free of duty; as glue or adhesive compounds, under 903, at 15 p.c. and $17\frac{1}{2}$ p.c.; as compositions, n.o.p., under 904, at 15 p.c.; in laminated moulded products, under 916, at 15 p.c.; and in other reinforced or supported products, under 917(b), at 15 p.c. The Canadian subsidiaries of silicone producers in the United States import and distribute the products; these companies proposed free entry for silicone fluids, resins and organic copolymers with or without admixture. Armet Industries Limited, recently purchased by Dow Corning, is a Canadian importer of silicones from which it produces silicone compounds for captive use and for sale; it also produces silicone products. Armet proposed a new item: for silicone rubber and silicone rubber gum stock, free entry; for silicone rubber compounds, a rate of 5 p.c.; and for further manufactured or fabricated parts, rates of 15 p.c. and 20 p.c. The textile interests proposed free entry, pending Canadian production for silicone emulsions for use in textile finishing; the paint and varnish interests also proposed free entry for silicone resins pending Canadian production; the Chemical Specialties Association proposed free entry for silicones as did Paisley Products.

There were further resins of this Recommended Item which came to the Board's attention; the Explanatory Notes to the Brussels Nomenclature list three on which no detailed representations were made: polycarbonates, polyethers and polyethylene imines. The commercial variety of polycarbonate resin is derived from bisphenol A and phosgene. Submissions to the Board dealt with five others: alkali-soluble resins, a terpene resin of the polyester type, furfural resins, cashew nutshell oil resins and binders for pigments and inks for textile use. Alkali-soluble resins, derived from tall oil or natural resins further modified than those of Recommended Item 39.05, are used in the production of waxes. A further group of resins derived from tall oil or natural resins were described as maleic-modified resin esters, modified pentaerythritol esters of rosins, alcohol and alkali-soluble resins, alcohol soluble modified esters of rosin, pentaerythritol derived heat reactive resin intermediates, internally plasticised pentaerythritol esters of rosin and rosin derived elastomeric resins.

Some alkali-soluble resins are produced by Schenectady Chemicals Canada Ltd. and Reichhold Chemicals Canada Ltd. stated that it was about to commence production of some products in the field of resins derived from natural resins.

The principal tariff items applicable to these other resins appear to be 901(a)7 (free), 901(b)7 (free), 901(c)4 ($12\frac{1}{2}$ p.c.) and 904 (15 p.c.).

The proposal of Schenectady Chemicals was for rates of 15 p.c. and 20 p.c. on alkyd resin solutions (901(c)3), alkyd resins without admixture (901(a)3), phenol aldehyde resins (901(a)1), phenol aldehyde resin solutions (901(c)1) and resins derived from natural resins (901(a)7) and on all resins now imported under 901(a)7 because they are chemically similar to and manufactured in equipment essentially the same as the company's products. Reichhold Chemicals proposed rates of 15 p.c. and 20 p.c. for its products of this Recommended Item: alkyd resins (901(a)3, 901(c)3), polyester resins (901(a)3), phenol aldehyde resins (901(a)1, 901(b)1, 901(c)1), phenol aldehyde

moulding compounds (902(a)), amino aldehyde resins (901(b)2, 901(c)2), oil-modified polyurethane (901(c)5) and epoxy esters (901(c)5). Harrison & Crosfield Ltd., for ten rosin esters modified with dibasic acids now entered under 901(a)7 free of duty and two others now under 901(c)4 at $12\frac{1}{2}$ p.c. and for three phenol aldehyde modified rosin esters now entered under 901(a)7 free of duty, proposed that there should be no increase; the company imports these products some of which appear to be closely related to the products of Schenectady or Reichhold. The Chemical Specialties Association sought rates of 5 p.c. and 10 p.c. for alkali-soluble resins used in the production of waxes -- a proposal represented by the Industry Committee as being broader in its terms than the interests of the Association. For Hercules Powder there was a proposal for a rate of 10 p.c. (now applicable under 901(c)5) on a polyester type terpene resin described as an alkyd derived from terpene polybasic acid; it is not produced in Canada and is imported from the U.S.A. Minnesota Mining proposed free entry for all resins of 39.01 which are not produced in Canada; the company specifically listed two such resins; the first, cashew nutshell oil resins are phenoplasts said to be different from those discussed earlier and now entered under 901(a)1 at $7\frac{1}{2}$ p.c., 901(b)1 at $7\frac{1}{2}$ p.c., 901(c)1 at $12\frac{1}{2}$ p.c.; the second, furfural resins are aminoplasts also said to differ from those discussed earlier and now entered not as amino-aldehyde type but as "other type" under 901(a)9 free of duty, 901(b)8 free of duty and 901(c)5 at 10 p.c. The Canadian Textiles Institute urged continuation of free entry under end-use item 203d for binders for pigments and inks for textile use; it indicated them to be complex formulations of Recommended Items 39.01 and 39.02 and unavailable from Canadian production; it appears that some may belong in Brussels Chapter 32 or in Recommended Item 38.19.

Recommended Item

B.P. M.F.N. G.T.

39.02 Polymerisation and copolymerisation products (for example, polyethylene, polytetrahaloethylenes, polyisobutylene, polystyrene, polyvinyl chloride, polyvinyl acetate, polyvinyl chloroacetate and other polyvinyl derivatives, polyacrylic and polymethacrylic derivatives, coumarone-indene resins):

(a) Without admixture other than an agent necessary to prevent caking, including scrap and waste; aqueous emulsions, aqueous dispersions or aqueous solutions, without other admixture:

1. Other than the following types	Free	Free	10
2. Acrylonitrile-butadiene-styrene (ABS) type	10	10	20
3. Polyacrylic type, including polymethacrylic, emulsions or dispersions	$7\frac{1}{2}$	$7\frac{1}{2}$	20
4. Polyethylene type	$7\frac{1}{2}$	$7\frac{1}{2}$	20

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
39.02 (a) (<u>Cont'd</u>) (Cont'd)			
5. Polypropylene type	7 $\frac{1}{2}$	7 $\frac{1}{2}$	20
6. Polystyrene type	10	10	20
7. Polyvinyl acetate type	10	10	20
8. Polyvinyl chloride type, including polyvinyl chloroacetate	10	10	20
9. Styrene-acrylonitrile type	10	10	20
(b) In organic solvents, where the weight of the solvent does not exceed 50 per cent of the weight of the solution, without other admixture:			
1. Other than the following types	7 $\frac{1}{2}$	7 $\frac{1}{2}$	20
2. Polystyrene type	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
3. Polyvinyl acetate type	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
4. Polyvinyl chloride type, includ- ing polyvinyl chloroacetate	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
(c) Moulding compositions, n.o.p., including scrap or waste, whether or not completely formulated; such compositions in the form of not fully cured preforms for compression moulding:			
1. Other than the following types	Free	Free	10
2. Acrylonitrile-butadiene-styrene (ABS) type	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
3. Polyethylene type	10	10	20
4. Polypropylene type	10	10	20
5. Polystyrene type	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
6. Polyvinyl acetate type	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
7. Polyvinyl chloride type, includ- ing polyvinyl chloroacetate	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
8. Styrene acrylonitrile type	12 $\frac{1}{2}$	12 $\frac{1}{2}$	25
(d) Compositions, n.o.p., composed entirely or predominantly of the polymerisation and copolymer- isation materials of paragraph (a) of this item	15	15	25
(e) Admixed with other materials to form glues or adhesives packaged or in bulk	15	17 $\frac{1}{2}$	25
(f) Foamed and expanded, in logs, sheets, blocks, boards, flakes, granules, powder, shreds, scrap or waste	15	15	25

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39.02 (g) Plates, sheets, film, sheeting,
(Cont'd) strip; lay-flat or other tubing,
blocks, bars, rods, sticks,
non-textile monofilament and
other profile shapes imported in
lengths, all produced in uniform
cross-section:

1. Other than the following types	Free	Free	10
2. Acrylonitrile-butadiene-styrene (ABS) type	17½	17½	25
3. Polyethylene type	15	15	25
4. Polymethyl methacrylate type plates, sheets, film, sheeting and strip	10	10	20
5. Polypropylene type	15	15	25
6. Polystyrene type	17½	17½	25
7. Polyvinyl chloride type (includ- ing polyvinyl chloroacetate) plates, sheets, film, sheeting, strip, lay-flat or other tubing, other than plain, uncoated, undecorated	17½	20	25
8. Polyvinyl chloride type (includ- ing polyvinyl chloroacetate), other	17½	17½	25
9. Styrene-acrylonitrile type	17½	17½	25

Unlike the products of heading 39.01, this Recommended Item would cover products derived by polymerization or co-polymerization, without the prior synthesis of macro-molecules by condensation, polycondensation or polyaddition. The principal products are given as examples in the wording of the Recommended Item, with the exception of such newer forms as polypropylene. All the materials of 39.02 are thermoplastic resins, although all the thermoplastics are not in 39.02.

Consumption in 1964 of the products of Recommended Item 39.02 was estimated conservatively at \$65 million and it is increasing rapidly.

The acrylic resins are a group of thermoplastic resins produced by the polymerization of monomers obtained from acrylic, substituted acrylic and methacrylic acids; these monomers, largely classified in Recommended Item 29.14, were said not to be produced in Canada; consequently they are now subject to free entry for synthetic resin production under tariff item 921 and under Recommended Item 29.14 would generally be subject to rates of Free and 15 p.c. The acrylics -- strong, rigid, good electrical insulants and of high optical clarity -- are used for automobile tail lights, aeroplane canopies, T.V. shields, signs and in making paints and adhesives; they are available as resins, emulsions, latices, solutions, moulding powders, other compounds, sheets, rods and tubes. Acrylic resins without admixture, whether dry or in solvents, as well as resins in the form of moulding or other compounds are not made in Canada -- at least

not commercially. Acrylic emulsions or latices are produced commercially and certain paint manufacturers produce acrylic resins in organic solvents for captive use. Canadian consumption of acrylic powders for moulding or extrusion is supplied entirely by imports which reached 3.8 million pounds in 1964. Total imports of acrylic resins in the same year were over 14.5 million pounds valued at about \$5.3 million. The acrylic emulsions are aqueous dispersions, about 50 per cent water by weight, largely used in the paint industry. They are also used in the paper industry as pigment binders, in the textile and leather industry as binders and in the production of self-polishing waxes. There are four producers of these emulsions in Canada, one of which has capacity to supply the entire domestic market. Imports of the latices were estimated to be, in 1962, about 25 per cent of the market; a decline to 15 per cent in 1963 was anticipated. Exclusive of the film and sheet, discussed later, the acrylics are now subject to entry as resins without admixture, under 901(a)9 free of duty; as resins in water, under 901(b)8 free of duty; as resins in organic solvents, under 901(c)5 at 10 p.c.; as moulding compounds, under 902(f) free of duty; and as resin compositions, n.o.p., under 904 at 15 p.c. The Rubber Association of Canada opposed any increase in rate largely on the basis of the increase in costs to its members and of the prosperity of the plastics industry under existing tariffs. Minnesota Mining sought free entry for polyacrylate resins in lump, powder, granule or flake form and for polyacrylamide resins in lump, powder, granule, flake, liquid or paste form as products not made in Canada, with rates of 15 p.c. and 20 p.c. to be applicable when there was Canadian production. Du Pont proposed free entry, until made in Canada, for polydiethylamino ethyl methacrylate, now imported under 901(c)5 at 10 p.c. and used in the production of spandex fibre. The four Canadian producers of acrylic emulsions proposed rates of 15 p.c. and 20 p.c. to ensure for them the entire Canadian market; they stressed import competition for emulsions used in making self-polishing waxes, a field in which Canadian subsidiaries use formulations devised by parent companies in the United States; they also stressed cost advantages in the U.S.A. arising from the larger market.

Acrylic film and sheet are produced in Canada only of polymethyl methacrylate, either as patterned extruded sheets or as cast sheets. At the time of the hearing in 1963 cast sheet was not produced in Canada, and an estimate of the market for 1962 was 4 million pounds for plain surface sheet valued at more than \$3 million; the market for patterned sheet was similarly estimated at about 250,000 pounds about half of which was supplied by imports from the U.S.A.; at that time all the plain material was being imported with cast sheet having 95 per cent of the market. Imports are largely from the U.S.A., Britain and West Germany. The sheet is now entered under several tariff items: if not less than 6 inches in width, under 905(b) when not further manufactured than moulded or cast free of duty, and if less than 6 inches in width, under 906(b) free of duty; otherwise, under 908 at 15 p.c. and 20 p.c.; additionally in special manufactured forms there can be entry under 326f at Free and 15 p.c. and under *445 at 20 p.c. and 22½ p.c. but these forms belong more properly in Recommended Item 39.07 as do most of the forms subject to entry under tariff item 908. The representations made at the hearing concerning cast polymethyl methacrylate sheets were all predicated upon the absence of Canadian production and sought free entry. G.M. Plastics considered cast and extruded sheets to be competitive with each other

and proposed for both rates of 10 p.c. for plain sheets and rates of 30 p.c. for sheets laminated, printed, embossed, decorated or otherwise surface-worked because of the higher cost of rolls and shorter runs in Canada than in the U.S.A. There was disagreement about the share of the market available to extruded and to cast sheet. Minnesota Mining sought free entry for a film less than .005 inch thick, as being thinner than any sheet produced in Canada.

Polyethylene is the product of the polymerization of highly purified ethylene gas in the presence of a suitable catalyst. The resins are made in a range of densities classified as low, medium and high; in most of their uses, the high and the low are complementary rather than competitive. The polyethylene resins are marketed in pellet form; they are readily subject to the ordinary processes of extruding, moulding and calendering; in different densities and grades they are used to make film, sheet, tubing, moulded housewares, toys, pipe, etc., in wire and paper coating and bottle blowing and as additives in waxes and printing inks. There are four resin producers: C.I.L., Dow, Du Pont and Union Carbide with a combined capacity close to 225 million pounds; in 1964 production was estimated at about 200 million pounds of which as much as 25 per cent was captive in further processing operations. The four resin producers all produce polyethylene compounds also; a few other firms blend and market polyethylene compounds. Beyond these two stages, there is a secondary polyethylene industry which processes the material into a finished product; this phase covers extruding, moulding, fabricating, and work with other plastics, some of which is done by the resin producers on an integrated basis and some by a large number of relatively small-scale operations. Because ethylene, a petroleum or natural gas product, is the main raw material, the resin producers are located near petroleum refineries or sources of natural gas. For polyethylene production, ethylene is now entered free of duty under tariff item 921 and would be free of duty under Recommended Item 29.01. The polyethylene market has had spectacular growth and in 1964 Canadian consumption was estimated at 160 million pounds, about 30 per cent of the total for all plastics. Import and export data are meagre and sometimes conflicting; imports do appear to have diminished as a percentage of domestic consumption from over a third in 1960 to about 15 per cent in 1964, imports are virtually all from the U.S.A. and most of them are not competitive with domestic production; exports have been increasing and reached 55 million pounds in 1964, largely to Hong Kong, Britain and Europe. Concern was expressed at a prospective serious overcapacity in the world with its threat of rising imports and declining exports for Canada; this apprehension has not yet been borne out. Polyethylene film, because of its versatility and economy, is the most popular in the plastics film field; about 40 per cent of domestic resin consumption is used in the film production. Three of the four resin producers make film grade resin and all four producers make film; there are also ten to twenty unintegrated film producers. In 1964 film shipments were 46 million pounds valued at \$21 million (total production, captive and merchant was 63 million pounds); in the same year imports were 4.6 million pounds valued at \$2.3 million, largely of a type not produced in Canada; film exports are not important in volume. There is conflict between the converters and the integrated resin producers who not only extrude the film but also make it into products such as bags of various types. Many other firms are also converters of film, though as the process of integration has expanded the number of unintegrated firms appears to

have declined and the degree of market control by the resin producers has increased. Some of the unintegrated producers stated that this process was accelerated by Union Carbide's patent control and licensing arrangements for the use of the Visking process for blown tubing. These arrangements direct the licensee, subject to a penalty, to purchase his resins from the Canadian producers. Moulding and extrusion processes account for 30 per cent of the resin used in Canada; the products are, of course, largely classified in Recommended Item 39.07. A large number of relatively small firms are engaged in this phase -- one in which the integrated operations of the large resin producers are less significant, though they appear to be increasing. Polyethylene prices have declined greatly in the last fifteen years owing to technological developments and increased markets; from 1949 to 1963 the price of resin in Canada fell from 65 cents to less than 25 cents per pound. The unintegrated film producers were concerned that the Visking patent licensing arrangements increased the control of the integrated resin producers over the film resin market; they contended that, though competition lowered prices for other polyethylene resins, the licensing arrangements in 1962 insulated the domestic film resin price from competition; to substantiate their concern they pointed to a one cent difference between Canadian and U.S. prices in December, 1961, which had spread to 10 cents by 1963. The original Visking patents were said to expire in November 1966, though a further patent expires only in 1971.

Polyethylene is subject to entry chiefly under the following tariff items: as resins without admixture, under 901(a)8 at $7\frac{1}{2}$ p.c.; as resins in water, under 901(b)8 free of duty; as moulding compounds, under 902(e) at 10 p.c.; as synthetic compositions, n.o.p., under 904 at 15 p.c.; as plates or sheets, not less than 6 inches in width, under 905(c)1 if plain, uncoated, undecorated at $12\frac{1}{2}$ p.c., otherwise under 905(c)2 at 15 p.c., and if less than the 6 inches, under 906(e) at 15 p.c.; as reinforced or supported plates, sheets, sheeting, strips, tubing, etc., under 917b at 15 p.c. The four resin producers sought increases in the duties on resins: Dow and Union Carbide, 15 p.c. and 20 p.c.; Du Pont, 25 p.c. and 25 p.c.; C.I.L., 25 p.c., M.F.N.; all four proposed a specific minimum of 5 cents per pound. These proposals were opposed vigorously by the unintegrated film manufacturers: Leco Industries proposed continuation of the existing $7\frac{1}{2}$ p.c. rate as did W.R. Grace & Co., Richmond Plastics (now absorbed by Dow Chemical); W. Ralston & Co. proposed free entry. For film, Dow Chemical and Union Carbide proposed 15 p.c. and 20 p.c. and Du Pont and C.I.L. 25 p.c. with an 8 cent per pound minimum on plain film and 30 p.c. on the decorated film; Leco Industries proposed not less than 15 p.c. for film, W. Ralston & Co., "either $7\frac{1}{2}$ p.c. or $12\frac{1}{2}$ p.c.", Atlantic Paper sought $22\frac{1}{2}$ p.c. on plain film and Deerfield Laminations sought a rate of 20 p.c. on polyester film coated with polyethylene; Paisley Products proposed 15 p.c. for decorated film, 10 p.c. for other and a minimum specific rate of 2 cents per pound; W.R. Grace urged that film bear the same rate as the resin for which it had proposed $7\frac{1}{2}$ p.c. The resin producers' plea for their substantial rate increases was based on their apprehension of overcapacity, particularly in the U.S.A., with its effect on competition, prices and exports; they foresaw vulnerability to import competition with low rates; they urged the advantage of foreign competitors arising from cheaper raw materials and larger scale operations; they sought to obtain all the domestic market which would soon allow a scale of production permitting

economic competition presupposing the entry of no further producers. Imports of off-grade and scrap resin, termed to be "disguised dumping", was a source of concern to the producers which proposed the counter-measure of specific minimum rates. The producers contended that internal competition would keep prices down. For film, the resins producers advanced much the same reasons. The Tariff sub-committee of the Moulders and Extruders Division of the Society of the Plastics Industry, in a general brief discussed in Recommended Item 39.07, proposed free entry for all the products of 39.01, 39.02 and 39.03 with rates of 30 p.c. and 40 p.c. on those of 39.07. The film producers were apprehensive about the influence of the resin producers on the film market and emphasized the even greater influence with the higher rates on resins. The polyethylene industry is growing rapidly and there are indications that domestic capacity will be increased further. The original apprehensions of the resin producers about overcapacity in the U.S.A. seem not to have been realized because of the increase in consumption in that country. The raw material, ethylene, appears to be available on both sides of the border at comparable prices. Though problems of scale of production were raised, the major economies on this score were said to be available in capacities of about 50 million pounds a year which is common to the Canadian producers. Imports have remained steady for several years at close to 25 million pounds and thus represent a declining proportion of the increasing domestic market. The concern of the film producers about the Visking licensing arrangements will not disappear till the patents expire.

In addition to the proposals pertaining to resin and film referred to above, the Board received two submissions concerning certain low molecular weight polyethylene resins used in the manufacture of artificial wax for polishing. These resins are not made in Canada. They appear not to belong in Recommended Item 39.02 but provision is made for their free entry in Recommended Item R-39(2).

Polyisobutylene is classified in the Brussels Tariff Nomenclature as a synthetic resin of heading 39.02. In the existing Canadian Customs Tariff, it is classified as synthetic rubber under tariff items *616(4) and *618 and consequently is not within the terms of this Reference. To preserve the Brussels Nomenclature the Board is recommending that Polyisobutylene remain classified in Recommended Item 39.02. Because the product is not within the Reference the Board is recommending the continuation of the free entry under all Tariffs now prevailing under tariff item *616(4).

Polypropylene is produced by the polymerization of propylene gas in the presence of a catalyst. Its major uses are in film, in synthetic textiles and in moulded manufactures.

Polypropylene resin, until 1964, was not produced in Canada in commercial quantities though there are indications that it may be produced in the future. Imports show an increasing market which exceeded 9 million pounds in volume and \$2 million in value in 1964; all imports have been from the U.S.A. The smallest economic plant capacity was said to be in the neighbourhood of 45 million pounds. Polypropylene film and sheeting is produced in Canada. Polypropylene, though it has certain distinctive characteristics, is competitive with other plastics such as polyvinylidene chloride, polyethylene, cellophane, polystyrene and with synthetics such as nylon, the acrylics and

the linear polyesters as well as the traditional natural fibres. It is subject to entry under the following tariff items: as resins without admixture under 901(a)9 free of duty; as moulding compounds under 902(f) free of duty; as plates, sheets, etc., not less than 6 inches in width under 905(f)1 if plain, uncoated, undecorated free of duty and under 905(f)2 if other at 10 p.c. and if less than 6 inches in width under 906(e) at 15 p.c. The principal raw material, propylene of high purity, would now be subject to free entry under 921 for the production of polypropylene and for it the Board has recommended free entry generally under Recommended Item 29.01. There were varied proposals: by Du Pont, for 25 p.c. and a 5 cent per pound minimum as for polyethylene; by Dow, for 15 p.c. and 20 p.c.; by C.I.L., for 25 p.c. and an 8 cent per pound minimum for plain film and sheet, 30 p.c. for film other than plain and 25 p.c. and a 5 cent per pound minimum for the balance; by Argo Plastics, Caledonia Chemicals and Leco Industries, for free entry for the resins; by Avisun Corporation, for free entry for resin and film; by W.R. Grace and Co., for continuation of the present rates and by Canadian Celanese Ltd., for free entry of the resin while not made in Canada when for use in producing synthetic fibres.

Polystyrene is the product of polymerization of styrene, a monomer derived from ethylbenzene. It is manufactured in a wide variety of forms and is adapted to a multitude of different uses. The styrene monomer is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. and in the Board's Recommended Item 29.01 would be subject to rates of 10 p.c. and 15 p.c. There are three resin producers in Canada with a combined capacity of 80 million pounds: Dow Chemical, Monsanto and Kayson Plastics & Chemicals. In 1964, they sold some 60 million pounds of polystyrene resins and compounds valued at \$10 million; exports accounted for nearly half of the domestic production and imports for about 17 per cent. General purpose clear resin, in early 1964, was priced at 17 cents per pound in Canada and 14.5 cents per pound in the U.S.A. Imports have been largely from the U.S.A. but also from West Germany with small amounts from Britain, France and the Netherlands. Polystyrene resins are imported mainly under the following tariff items: 901(a)5, without admixture, at 7½ p.c.; 902, when compounded, at 10 p.c. Dow Chemical and Monsanto proposed rates of 15 p.c. and 20 p.c. with a specific minimum rate of 5 cents per pound under both Tariffs.

Expandable polystyrene beads are a form of moulding compound used in the production of polystyrene foams; they are produced in Canada only by Dow Chemical which supplies almost the entire domestic market but makes no substantial exports. One consumer of polystyrene beads, Polychemical Industries, a producer of disposable cups, pointed out that it could not use the Dow product. Dow Chemical admitted that its product could not be used for small mouldings of this type but advised the Board that it was making arrangements to produce in Canada the size and type of beads required by Polychemical Industries.

Polystyrene foam is used for its insulation and buoyancy. Until recently all polystyrene foam made in Canada was produced from expandable polystyrene beads by Dow Chemical and 21 other companies to make bead board and other foamed products. In 1963, Dow Chemical began production of polystyrene foam by extrusion in which an expanding agent was incorporated during the process of extrusion. The major

uses of the foam are as insulation in the construction industry, as cushioning in packaging and as thermal insulation in hot drink cups. Capacity was said to be well in excess of the market. The prices of foam board in Canada and the U.S.A. were said to be comparable. Polystyrene foam in the forms of logs, sheets, blocks or boards, or in flakes, granules or powder, is dutiable under tariff item 907 at rates of 15 p.c. and 20 p.c. Dow Chemical recommended that these rates be maintained with a minimum of 5 cents per pound under both Tariffs.

Polystyrene film is not made in Canada but polystyrene sheet is. Sheet extrusion, followed by moulding, is one of the methods used to produce the end products. In 1964, the domestic production of plain undecorated sheeting over 3 mils in thickness was nearly 7.7 million pounds valued at almost \$2.7 million. "Oriented" polystyrene sheets are not made in Canada; they are imported free of duty under tariff item 905(f)1 and one importer proposed continued free entry until made in Canada. There were no representations as to the appropriate rates for the other polystyrene sheets which are now dutiable at 10 p.c. under tariff item 905(f)2 and at 15 p.c. under tariff items 906(e), 916 and 917(b).

Polystyrene emulsions are produced with water, surface-active agents and protective colloids; they are used principally in self-polishing floor waxes. There are four producers in Canada, three for merchant sale and one for captive use; the market was estimated at \$800,000 and productive capacity was said to be in excess of the market requirements. Though there are no imports statistics, imports were estimated to supply 40 to 50 per cent of the market largely because of the use of U.S. formulations by subsidiaries of U.S. companies. Polystyrene emulsions are now classified under tariff item 901(b)5 at $7\frac{1}{2}$ p.c. Rates of 15 p.c. and 20 p.c. were proposed by two producers.

ABS terpolymers are based on combinations of acrylonitrile, butadiene and styrene. They are used in making telephone housings and components, appliances, jugs, pipes, fittings and tanks, and automobile instrument clusters. The Canadian market is growing rapidly and was expected to reach 10 million pounds valued at \$4 million in 1966. Production of ABS resins in Canada started in 1964; imports in that year were 5.5 million pounds valued at almost \$2.4 million, almost entirely from the U.S.A. Production in 1964 was reported at 4 million pounds, exports at 2 million pounds, suggesting consumption in Canada of about 7 million pounds in that year. Canadian capacity appears to be sufficient to meet the domestic requirements. ABS resins without admixture are now free of duty under tariff items 901(a)9 and 901(b)8 and the compounds are also free of duty under tariff item 902(f). Northern Electric Company Limited, an importer of ABS moulding powders, proposed free entry until made in Canada, the Rubber Association of Canada requested that there be no change in the present rates and there were other submissions for rates of 25 p.c. with a minimum of 5 cents per pound and rates of 15 p.c. and 20 p.c. with or without a minimum rate of 5 cents per pound when made in Canada. Since June 1964, ABS terpolymer resins and moulding compounds are ruled to be of a class or kind made in Canada.

Styrene-maleic anhydride copolymer resins are not produced in Canada; they are imported for use in the textile industry, in making self polishing waxes and in making methyl methacrylate-styrene-maleic anhydride copolymer resins for these waxes; they represent 25 to 30 per cent of the cost of the wax formulations. The textile industry estimated the value of its annual consumption of these resins at about \$250,000. Only the U.S.A. was mentioned as a source of imports. Without admixture and when styrene is the predominant monomer, these copolymers are dutiable at $7\frac{1}{2}$ p.c. under tariff item 901(a)5; when the maleic anhydride predominates, they are free of duty under tariff item 901(a)9. The users proposed free entry until production was begun in Canada.

Other resins of this Recommended Item, not made in Canada, were also mentioned. Styrene-acrylonitrile resins are used in Canada to the extent of about 500,000 pounds annually; though not made in Canada, Monsanto has announced its intention of commencing production. Pennsylvania Industrial Chemical Corporation mentioned styrene resins of molecular weights under 2,000, unsuitable for foaming, moulding or extruding, which it supplies to the Canadian market; they include styrene copolymers, certain styrene homologs, styrene-acrylonitrile-indene terpolymers and certain modified styrene resins; the Industry Committee foresaw difficulty in distinguishing these products from the Canadian produced resins, a difficulty for which no satisfactory solution was urged; the Canadian market for these specialty resins appeared to be small; they are now entered at rates of $7\frac{1}{2}$ p.c. under tariff items 901(a)5 and 901(b)5 and the users urged free entry or no change in rates.

Styrene-butadiene latices are a water dispersion of styrene-butadiene resin. At present, latices with a styrene content of less than 50 per cent of the solids content are considered to be synthetic rubber under tariff item *616(4), free of duty, and beyond the Board's terms of reference; those with a styrene content exceeding the 50 per cent criterion are classified as synthetic resins and may be entered under tariff item 901(b)5 at $7\frac{1}{2}$ p.c. Polymer Corporation produces latices containing less than 50 per cent of styrene and Dow Chemical, latices with a 45 per cent to 60 per cent content; the principal market for the Dow product is in interior paints and in the paper industry where the styrene content is above the 50 per cent criterion. Canadian and U.S. prices for the product are comparable. Imports were estimated to represent less than 5 per cent of the market; there are exports, principally to Britain but also to Australia. Dow proposed rates of 15 p.c. and 20 p.c. with a minimum of 5 cents per pound when containing more than 40 per cent styrene by weight of the solids content; this proposal would cover some latices now considered to be synthetic rubber. Polymer Corporation objected to changes which would result in products now classified as synthetic rubber being made dutiable or being classified as synthetic resins. In a general submission, the Rubber Association opposed increases in rates of duty on materials used by its members.

Proposals for polystyrene resins and moulding compounds by two of the producers, Dow and Monsanto, sought increases to 15 p.c. and 20 p.c. with a specific minimum of 5 cents per pound. The proposal to increase rates was based upon the need to have the total Canadian market in order to produce at maximum volume and thus reduce

costs to maintain exports; the specific minimum of 5 cents per pound was said to be needed to meet imports of scrap or off-grade material because material which is off-grade for one purpose may be prime grade for another; this was said to allow an unreasonably low market value to be established to circumvent the protection afforded by an ad valorem duty. No data is available to the Board to assess the full extent of this problem, though imports of resins and compounds appear to have been stable and at average values that do not suggest significant amounts of this distress selling. At the current published price of $14\frac{1}{2}$ cents per pound in the U.S.A. the ad valorem equivalent of the proposed specific minimum of 5 cents per pound would be 34 p.c. It was further urged that domestic competition would keep prices from increasing. Two companies urged no change from the existing rates for some special moulding powders not made in Canada or not made in the required quality.

For expandable polystyrene beads, Dow Chemical proposed rates of 15 p.c. and 20 p.c. with a 5 cent per pound specific minimum. Polychemical Industries requested continuation of the existing 10 p.c. rate on the material it imported -- because of lack of Canadian production -- to make disposable cups; Dow opposed this request because the imported beads could compete in other fields and, since the hearing, has stated its intention to produce in Canada the size and type of beads required by Polychemical. At the present prices of the beads in issue the proposed specific minimum of 5 cents per pound would have no effect.

For the polystyrene foams, Dow's proposal was the same: 15 p.c. and 20 p.c. with the 5 cent per pound specific minimum; there were no other proposals relating directly and only to the foams. Scrap polystyrene foam would now be entered under tariff item 681, free of duty as waste; under the Board's recommendation it would be dutiable at 15 p.c. under Recommended Item 39.02.

On polystyrene film and sheeting W.R. Grace proposed for "oriented" sheeting used to make food package trays the continuation of the free entry now provided under tariff item 905(f)1; it also sought free entry, low rates or a duty-free quota, for a fixed period, on imports of resin and film not produced in Canada; it considered a rate of 10 p.c. to be high enough to exclude products competitive with Canadian production and that rates on film and sheet need be no higher than those on the resins.

Polystyrene emulsions were the subject of proposals for rates of 15 p.c. and 20 p.c. by two producers, largely to induce subsidiaries of U.S. companies to abandon the importation of special formulations from the parent companies in favour of Canadian production. Though the existing rates of 15 p.c. and 20 p.c. on the styrene monomer -- for which the Board is recommending 10 p.c. and 15 p.c. in Recommended Item 29.01 -- was also given as a reason, imports appear to be negligible and there is no indication of the extent to which the price in Canada reflects the rate of duty.

For ABS terpolymer, Northern Electric proposed continued free entry as did the Rubber Association of Canada.

The styrene-maleic anhydride copolymer resins were the subject of proposals for free entry by the manufacturers of self-polishing waxes and of textiles until there is Canadian production. Schenectady Varnish Canada Ltd., a producer of competitive alkali-soluble resins in Canada, opposed free entry and sought rates of 15 p.c. and 20 p.c. for the products of Recommended Items 39.01 and 39.02.

The styrene-butadiene latices with a predominant styrene content are within the Reference; a Dow proposal sought to include these latices "when containing more than 40 per cent styrene by weight"; Polymer Corporation sought no change in this field; there was thus an area of opposition for the latices containing between 40 and 50 per cent styrene.

Other styrene resins were the subject of proposals. The Rubber Association opposed increases on styrene-acrylonitrile resins; Monsanto has announced its intention of producing these resins in Canada. Pennsylvania Industrial Chemical Corporation opposed change in the rates on the styrene resins of low molecular weight it exports from the United States to Canada.

The vinyl resins include the polymers of vinyl acetate, vinyl alcohol, vinyl chloride and vinylidene chloride as well as a number of copolymers.

The polyvinyl acetal resins are in three groups; polyvinyl acetal, polyvinyl butyral and polyvinyl formal, of which only the last two are commercially important in Canada; there is no monomer form and production is by condensation of an aldehyde with polyvinyl alcohol; these resins are used in producing sheeting, surface coatings, waterproofing fabrics and adhesives; they are not produced commercially in Canada; the paint industry consumes about 75,000 pounds of the resins annually valued at about \$75,000. The major use of the polyvinyl butyral resins is the production of sheeting for use as an interlayer in safety glass for the automobile industry; the sheeting is not produced in Canada and imports, from the U.S.A., in 1964, amounted to more than 1.1 million pounds valued at about \$1.7 million. The resins are now entered under tariff item 901(a)6 at 5 p.c.; the polyvinyl butyral sheeting may be entered free of duty under tariff item 805 for making safety glass, otherwise it is entered as a glue under tariff item 903 at rates of 15 p.c. and 17½ p.c. The Canadian Paint Varnish and Lacquer Association, the Society of Plastics Industries and Schenectady Varnish proposed free entry for the resins until there was Canadian production. For the polyvinyl butyral sheeting, Duplate, Ford Motor and the Society of Plastics urged free entry, Duplate and Ford urging the retention of end-use item 805; Shawinigan Chemicals, while not opposing free entry until the sheeting was produced in Canada, did oppose retention of the end-use item, urging that higher rates be prescribed when Canadian production commences.

Polyvinyl acetate resin is a product of the polymerization of vinyl acetate monomer in the presence of a catalyst; the monomer is subject to existing rates of 15 p.c. and 20 p.c. under tariff item 711; for it the Board is recommending rates of 10 p.c. and 15 p.c. in 29.14(63). Polyvinyl acetate is available as a dry resin, used in adhesives and lacquers and as an intermediate in the production of polyvinyl alcohol and polyvinyl acetals; in organic solutions, used in

adhesives and lacquers; and in water emulsions, used in protective coatings and as strengthening additives in cement. The dry resins and the emulsions are made in Canada. Shawinigan Chemicals produces the dry resin and the vinyl acetate monomer; it supplies the Canadian monomer requirements and exports it on a large scale as well. A dozen producers make the emulsions. Total Canadian productive capacity for polyvinyl acetate was estimated at roughly 20 million pounds; it is sold principally as an emulsion for which the market was estimated, in 1963, at 13 or 14 million pounds; it meets competition in Canada from the butadiene-styrene resins and from acrylic emulsions. There are no exports of the emulsions and only very limited exports of the dry resins. Though exports of the emulsion were said to be difficult because of deterioration by freezing, imports were represented to be about 2 million pounds, or 15 to 20 per cent of the market -- principally from the U.S.A., but also from Germany. Official data are not available on exports and imports but Canadian Plastics, a trade publication, estimates that in 1962 and 1963 imports were about 6 million pounds and exports about 4 million pounds. Prices in Canada and the United States have been similar since 1959. The applicable tariff items are: as dry resins, under 901(a)6 at 5 p.c.; as aqueous emulsions, under 901(b)6 at 5 p.c.; in organic solvent, under 901(c)5 at 10 p.c.; as moulding compounds, under 902(d) at 10 p.c.; as adhesive compounds, under 903 at 15 p.c. and 17½ p.c. and as other resin compositions, under 904 at 15 p.c. Polyresins Ltd. proposed rates of 15 p.c. and 20 p.c.; Reichhold Chemicals, of 25 p.c. but not less than 4 cents per pound and Shawinigan Chemicals, of not less than 15 p.c. and 20 p.c. The paint industry, because of its captive production, expressed agreement with rates of 15 p.c. and 20 p.c. In support of the plea for higher rates, the smaller market, the shorter runs, the higher unit costs, the use of foreign parent company's formulations and the capacity to supply were all urged.

Polyvinyl alcohol, a tough, rubber-like substance, is made by hydrolysis of vinyl acetate; its major uses are in the production of polyvinyl acetate emulsion, in paper coating and sizing and as a water soluble film for packaging soaps, detergents and dyes. As a water soluble resin it does not generally compete with other polyvinyls. It is not made in Canada and is imported from the U.S.A., Germany, and Japan. The only import statistics available show imports of \$7,000 for a six month period in 1960. Polyvinyl alcohol is entered, as a resin without admixture, under tariff item 901(a)6 at 5 p.c. Bate Chemical Corporation and the Society of the Plastics Industries proposed free entry.

Polyvinyl chloride is the product of polymerization of vinyl chloride; vinyl chloride is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. and in Recommended Item 29.02 the Board is recommending rates of 10 p.c. and 15 p.c. Polyvinyl chloride is the most important of the vinyls and has a wide variety of uses. The PVC (polyvinyl chloride) industry in Canada includes the producers of resins and other primary PVC products, the moulders, the firms engaged in calendering, casting or extruding film or sheet, the printers of sheeting, the makers of reinforced PVC materials, the laminators and the fabricators of products classified in Recommended Item 39.07. There are three resin producers in Canada -- Goodrich, Monsanto and Shawinigan Chemicals -- and Imperial Oil is reported to be entering production. An estimate of Canadian capacity now exceeds 150 million pounds. The

three original resin producers and Carlew Chemicals and Kayson Rubber & Plastics Ltd. compound the resins with plasticizers and stabilizers; certain other companies carry out blending operations on a lesser scale. Two of the major film producers, including one of the resin producers, are engaged in extensive converting operations; in addition there are many small converters of purchased film or sheet. Some forty companies, including two of the major producers of resin and compounds, engage in the production of a multitude of other PVC products. In 1964 factory shipments of PVC resins were 76 million pounds and imports were over 42 million pounds; exports have been estimated to be between 4 and 6 million pounds in recent years. Canadian resin-producing plants are smaller than their counterparts in the U.S.A. but none of the evidence made clear the cost disadvantage resulting from this fact. Transportation costs afford some protection to the Canadian producers. In any event there has been great expansion in Canada in recent years. By 1964 prices for PVC general purpose resin were about 16 cents per pound in both Canada and the U.S.A., though Japanese prices had been lower in earlier years. PVC film and sheet are made by calendering; though some is produced and sold as plain material, most of it is laminated, embossed, printed, coated or lacquered after calendering. In 1964, the market for film and sheet was about 21 million pounds valued at \$10.5 million; there are four major producers: Canadian General-Tower, C.I.L., Monsanto and Shawinigan Chemicals, the last two being producers of the basic resin also; Tower, C.I.L. and Monsanto also produce coated fabrics and Shawinigan and Tower are engaged in major converting operations. Resin is reported to be about 60 per cent of the film content, 35 per cent of the cost of plain film and 25 per cent of the cost of decorated film. In 1964, film and sheet imports were about 6.1 million pounds valued at \$3.1 million, an undeterminable portion whereof is film of a type not made in Canada; the share of imports was estimated to be not less than 35 per cent of the market; about 60 per cent of the imports are from the U.S.A. The value of shipments was about 57 cents per pound and imports about 50 cents per pound. PVC resin is extruded or moulded to produce wire coating, garden hose, shapes, panels, toys, floor tiles, foams, construction materials, packaging, containers, folding doors and piping; in this fabrication field there are some forty manufacturers; about 37 per cent of the resin consumption is in this field. Vinyl-asbestos tile production alone, in 1964, reached nearly 185,000,000 square feet -- more than three times the volume of 1959 which had been valued at about \$10.7 million; the tile imports from 1961 to 1963 ranged around 5,000,000 square feet. The market for PVC foam appears to be small and specialized; two firms are in production.

PVC resin, in its various forms, is subject to entry under the following tariff items: as resin without admixture, under 901(a)6 at 5 p.c.; as resin in water, under 901(b)6 at 5 p.c.; as resin in organic solvent, under 901(c)5 at 10 p.c.; if containing an anti-caking ingredient, under 901(d)2 at 10 p.c.; as moulding compounds, under 902(d) at 10 p.c.; as resin composition, n.o.p., under 904 at 15 p.c.; as plates, sheets, etc. not less than 6 inches in width, under 905(d)1 if plain, uncoated, undecorated, at 15 p.c. and under 905(d)2, if other, at 15 p.c. and 20 p.c., and, if less than 6 inches in width, under 906(c) at 15 p.c.; if foamed or expanded, under 907 at 15 p.c. and 20 p.c.; as manufactures including floor and wall tile containing synthetic resin, n.o.p., under 908 at 15 p.c. and 20 p.c.; in laminated moulded products, under 916 at 15 p.c.; and in other reinforced or

supported products, under 917(b) at 15 p.c. In a great variety of submissions, rate proposals ran the gamut from free entry to as much as 25 p.c. with a 4 cent per pound minimum and even to 30 p.c. on the various forms. On the resins, the three producers sought increased rates ranging from 15 p.c. and 20 p.c. to as much as 25 p.c. with a 4 cent minimum per pound; two of these proposals urged the same rates for the resin and the plate, sheet, film, etc., as long as the latter were undecorated. Five consumers who fabricate products from resins urged that there be no changes. The coated fabric industry sought to have their products made dutiable under the appropriate tariff items dealing with textiles and not those dealing with plastics. The paint interests sought free entry under an end-use item for the resins in solution which they use to the extent of about \$400,000 annually in the absence of Canadian production. Generally too, the consumer sought increases on his product if there were to be increases on his raw material.

The three producers of the resin based their plea for increased rates on the smaller domestic market, smaller plants, higher capital investment and fixed costs per unit, low prices caused by world overcapacity. The film and sheet producers and the fabricators were concerned that increased rates on resins would increase prices on their raw materials; they stated that, in 1962, Canadian prices were among the highest in the world and that the producers of the resin, their raw material, compete in the manufacture of film, sheet and other manufactures too. Since the hearing, the markets, both international and domestic, have increased and now undercapacity appears to be the immediate problem.

Polyvinylidene chloride is obtained by polymerizing vinylidene chloride monomer (1,1-dichloroethylene) or by copolymerizing vinyl chloride and vinylidene chloride. At present the vinyl chloride is subject to rates of 15 p.c. and 20 p.c. under tariff item 711; for it rates of 10 p.c. and 15 p.c. are recommended under Recommended Item 29.02(16) and for vinylidene chloride both existing and recommended rates are Free and 15 p.c. Dow Chemical Company in the U.S.A. is the primary supplier of polyvinylidene resins for the world. Polyvinylidene chloride is used to produce monofilaments, rigid pipe and tubing and the film is used in heat sealing applications. The resins are not made in Canada nor was their domestic production predicted in the foreseeable future. Tubular film, but not film in the flat sheet form, is produced in Canada by the Cryovac Division of W.R. Grace & Co. of Canada Ltd. under license from Dow Chemical; Dow Chemical of Canada imports the resins from Dow Chemical in the U.S.A. to supply Grace's requirements for the film; the material is also imported under the name of saran for other uses including the production of monofilaments for weaving synthetic textiles. In 1963 it was estimated that imports would be close to 2 million pounds annually with a value of about \$800,000. Film tubing imports do not appear to be significant; there are imports of film in sheet form and small imports in the form of casings for meat packing. Exports of polyvinylidene chloride materials were said to be small. The polyvinylidene chloride packaging material was said to be higher in price than other plastic films and at least twice the price of polyethylene.

Polyvinylidene chloride is generally entered under the following tariff items: as resin without admixture, under 901(a)9 free of duty; as plates, sheets, film, under 905(e)1, 905(e)2 and 906(d) free of duty; as manufactures including floor and wall tile containing synthetic resin, n.o.p., under 908 at 15 p.c. and 20 p.c. All proposals for the resins were for free entry; for the film W.R. Grace proposed free entry for lay-flat tubing, not surface-worked, in rolls of 10 pounds or more; for rolls of less than 10 pounds, it would agree to the general proposals for 25 p.c. and a 5 cent per pound minimum. There was conflicting evidence about the degree of competition between polyvinylidene chloride film and other films.

There are several other resins which came to the Board's attention.

The so-called "asphalt" floor tile is no longer produced chiefly from asphalt which has been replaced as a binder by low molecular weight resins, particularly coumarone-indene resins. There are four producers of such tile in Canada, two of which made submission on the subject directed primarily to synthetic resins. Sales, production and imports of these tiles are decreasing. Asphalt tiles containing synthetic resin are dutiable under tariff item 908 at 15 p.c. and 20 p.c. The two submissions proposed continuation of existing rates if coumarone-indene resins continued to be entered free of duty; if rates on the resins were increased a compensating increase on the tiles was suggested. The Canadian asphalt tile producers appear to have more than 90 per cent of the Canadian market.

Coumarone-indene resins are made by the copolymerization of the coumarone and indene derivatives of coal-tar light oil. They are not produced in Canada where they are used mainly in the compounding of rubber and in the production of floor tile and paints; consumption in the paint and varnish industry exceeded 500,000 pounds in 1961 with a value of \$82,000. The resins are usually imported in solid form but also in organic solvents. If imported without admixture or in water they would be entered free of duty under 901(a)9 or 901(b)8; as resins in organic solvents they are entered at 10 p.c. under tariff item 901(c)5. All proposals sought free entry, at least until the commencement of Canadian production; two producers in the United States supported the proposal for continued free entry.

Fluorocarbon resins are a group of resins derived from the polymerization of fluorine with monomers which contain hydrocarbons, usually ethylene or propylene; fluorine is subject to rates of Free and 15 p.c. under existing item 208t and these rates are recommended for it in Recommended Item 28.01(3). The resins include, for example, polytetrafluoroethylene, polychlorotrifluoroethylene, polyvinylidene fluoride and the copolymer of tetrafluoroethylene and hexafluoropropylene. Fluorocarbon resins are not produced in Canada; imports are from the United States and Britain. The market was estimated to have grown from 5 tons in 1960 to 15 tons in 1962, valued at about \$120,000, Du Pont in the U.S.A. and Imperial Chemical Industries in Britain being the principal suppliers. As resins without admixture under tariff item 901(a)9, as resins in water under tariff item 901(b)8 and as moulding compounds under tariff item 902f, they are entered free of duty; as compositions, n.o.p., under 904 at 15 p.c., or under 220a(i) at 15 p.c. and 20 p.c. The specific proposals sought free entry.

Hydrocarbon resins of low molecular weight comprise a wide range of resins obtained from such materials as coumarone, indene and other fractions of coal tar distillates, from residues of the cracking of crude oil and from beta-pinene. The resins include coumarone-indene resins, paracoumaron resins, polyterpene resins and the so-called "asphalt" tiles discussed separately.

For paracoumaron resins free entry was proposed until they are made in Canada.

Petroleum resins are derived from petroleum distillates and are used as substitutes for coumarone-indene resins. They are available in solid, emulsion and solution forms; they are used in latex paints, in rubber compounding and in water resistant varnishes; their principal use is to modify other synthetic resins. These resins are not produced in Canada and are imported, principally if not exclusively, from the United States; they are imported free of duty as resins without admixture, under tariff item 901(a)9 and as resins in water, under 901(b)8, and at rates of 10 p.c. as resins in organic solvents, under tariff item 901(c)5. The Rubber Association, Minnesota Mining and two producers from the U.S.A. proposed continued free entry. To provide for such free entry, there arises a problem of definition to which no really adequate solution was proposed. It does appear that the petroleum resins in issue are generally low molecular weight resins. The opposition to the free entry proposal was from those proposing protective rates without exceptions; there was a suggestion of areas of possible competition with Canadian-made resins, but the areas were not identified.

Polysulphide resins were the subject of representations. In their solid form they are subject to entry under tariff item *616(1) at rates of Free and 5 p.c. and in liquid forms, under tariff item *616(4) free of duty under both Tariffs; in the Brussels Nomenclature they are deemed to be synthetic rubber of heading 40.02. As synthetic rubber under our existing tariff these resins are not within the Reference.

Polyterpene resins are produced by the polymerization of beta-pinene; they have a molecular weight of some 1200; among the low molecular weight resins they have unique properties because of their lower density than coal-tar or petroleum resins. They are used in producing adhesives, coatings, drying oils and varnishes and emulsion waxes, in concrete curing and in rubber compounding. They are not produced in Canada and are imported from the United States. They are subject to the same rates, proposals and comments as the coumarone-indene resins and the petroleum resins.

CONCLUSIONS AND RECOMMENDATIONS FOR BOTH RECOMMENDED
ITEM 39.01 AND RECOMMENDED ITEM 39.02

In spite of the prevalence of free entry or low rates of duty in the existing plastics schedule, the plastics industry has been expanding very rapidly indeed.

In general, the Board is recommending the continuation of free entry for resins of a type not now made in Canada and the application of moderate rates of duty on resins which are now so made. While some of the increases are larger than the Board usually recommends, the Board believes them to be justified by the words of the Reference from the Minister of Finance concerning his expectation that the Board "would have regard to the rates of duty applicable to other related or comparable products".

At the hearings there was a considerable difference of opinion as to the desirability of continuing a "patterned rate structure" for synthetic resins. The integrated producers of resin contended that no such patterning was necessary and urged that the rates they proposed for the products be applied also to the resins in all their forms. The non-integrated fabricators, on the other hand, feared that this procedure would leave the integrated resin producers in a position of such power that they would be able to force the independent fabricators out of the market for products; they proposed either that the resins be allowed entry free of duty or that the rate structure be so patterned as to protect processing margins from being unreasonably narrowed by the competition of the integrated producers which were both their suppliers and their competitors. Whatever the reason it appears that, in some sectors, the non-integrated fabricators have been disappearing rather rapidly, partly through absorption by the integrated producers. While the Board seeks not to encourage inefficiency on the part of the independent fabricators, it also seeks not to expose them to any danger that might arise from the possibility of unfair domestic competition. Accordingly, it recommends, as it did in its former report on plastics, that a patterned rate structure be maintained. If this diminishes slightly the reduction of costs which might otherwise be possible from integration, the loss may, in part, be offset by an increase in the number of experienced managers and the dispersion of plant locations.

Despite the proposals of the resin producers, the Board has refrained from introducing into the plastics schedule items which would require an administrative decision to be made between plastics of a kind produced in Canada and those of a kind not so produced. It is apparent that in its earlier report the Board considered such an item undesirable and the difficulties which were urged even in connection with existing item 921, the only item in the plastics schedule which now requires such a decision, has persuaded the Board, in framing its recommendations, to avoid the distinction altogether. This issue is also discussed on page 17 of Volume 1 of the Report.

For the most part, the items of the plastics schedule make no provision for preferential margins of duty and the Board has striven to retain this characteristic in its recommendations.

In each of the recommended items 39.01 and 39.02 the Board has combined in sub-item (a) the forms now enumerated in existing items 901(a), 901(b) and 901(d) without recommending different rates for the resins when without admixtures, when in aqueous emulsions, dispersions or solutions and when containing a necessary anti-caking ingredient without other admixture.

The types of resin not made in Canada are now, generally speaking, admitted free of duty when without admixture. Processors strongly urged that any application of duties to resins not made in Canada would frustrate their endeavours to keep up with their competitors in other countries, in the development of new products and more efficient methods. For these resins the Board recommends the continuation of free entry; in recommended items 39.01 and 39.02 they would include: aniline formaldehyde, coumarone-indene, fluorocarbon, paracoumaron, phenol acetaldehyde, phenol furfuraldehyde, polycarbonate, polyisobutylene, polyterpene, polyvinyl acetal, polyvinyl alcohol, polyvinyl butyral, polyvinyl formal, polyvinylidene chloride and styrene-maleic anhydride resins.

For several types of resin, which now enter free of duty although they have come to be made in Canada, the Board recommends an increase from free to 10 p.c.: acrylonitrile-butadiene-styrene, epoxy, melamine formaldehyde and polyamide, other than polycaprolactam or polyamide epichlorohydrin. In addition, certain resins now classified as resins derived from natural resin or tall oil, which now enter free of duty under items 901(a)7 and 901(b)7 could attract a rate of 10 p.c.; so could certain styrene-epoxy resins which are now free of duty under item 901(a)9 and 901(b)8.

For special reasons the Board is recommending the rate of $7\frac{1}{2}$ p.c. for certain other resins that are now free of duty.

Polyacrylic emulsions and dispersions are now made in Canada and domestic producers, even without protection, have been able to secure a substantial part of the market. For these emulsions and dispersions the Board recommends an increase in duty from free to $7\frac{1}{2}$ p.c.

Polyamide epichlorohydrin resins are made in Canada by one producer; for epichlorohydrin the Board is recommending free entry in Recommended Item 29.09(2). For the resins, the Board recommends an increase in rates from free to $7\frac{1}{2}$ p.c.

Special conditions of domestic competition and rivalry between companies which use different but competing materials and processes have led the Board to recommend for the polycaprolactam type a rate of $7\frac{1}{2}$ p.c.

Polypropylene was not made in Canada in 1965, though there were indications of domestic production; it is competitive in many uses with resins which are so made. For it also the Board recommends an increase in duty from free to $7\frac{1}{2}$ p.c.

Urea formaldehyde resins are used in the production of moulding compounds and as an adhesive for plywoods. They are made in Canada by

a number of companies; imports are chiefly in the form of moulding compounds. For the principal chemicals used in their production the Board is recommending free entry or relatively low rates of duty. For the urea formaldehyde type of resins, the Board recommends an increase in rates from free to $7\frac{1}{2}$ p.c.

For many of the types of resin now dutiable at 5 p.c. or $7\frac{1}{2}$ p.c. the Board recommends a rate of 10 p.c. under both Tariffs. These would include the following types: alkyd, phenol formaldehyde, polyethylene terephthalate, polystyrene, polyvinyl acetate, polyvinyl chloride, styrene acrylonitrile and unsaturated polyester.

For polyethylene resins, now dutiable at $7\frac{1}{2}$ p.c. under item 901(a)8, the Board recommends continuation of the existing rate. A large part of this resin is used in the production of film. At the public hearing, it appeared that, by its licensing arrangements, the holder of the patent for the most effective process of producing polyethylene film was able to discourage domestic film producers from using imported resin; the film producers urged that a high rate of duty would leave them at the mercy of the resin producers who were also their competitors. Since that time, it is understood that certain of the patents have expired. Free entry for ethylene, the monomer from which the resin is produced, is recommended in Item 29.01 (11).

Polyethers of a kind not made in Canada are imported free of duty under item 921 when for use in the making of plastics; when for other uses they are imported under item 208t at Free B.P., 15 p.c. Those polyethers which are ruled to be made in Canada are entered under item 711 at rates of 15 B.P., 20 M.F.N. For all the polyethers the Board recommends the rate of 10 p.c.

For the resins of Recommended Items 39.01 and 39.02, when in organic solvents, the Board is recommending rates which would correspond roughly with the duties recommended for the constituents of the solutions. Since the Board is recommending a reduction in the rates on many solvents and since, in the recommended items, the weight of the solvent may not exceed 50% of the weight of the solution instead of 60% as at present, the rates recommended are lower than those now applicable to solutions of those resins that would continue to be free of duty when without admixture. For such resins, when in organic solvents, the Board recommends the rate of $7\frac{1}{2}$ p.c. Where other rates of duty are recommended for the resins without admixture, the Board recommends for the solutions, rates which are influenced by the level of the duty on the resins. The rates so recommended range from 10 p.c. to $12\frac{1}{2}$ p.c.

For those moulding compositions and reforms for moulding which are not of a kind now made in Canada the Board recommends free entry. For moulding compositions of a kind now so made, the recommended rates vary from $7\frac{1}{2}$ p.c. to $12\frac{1}{2}$ p.c. depending, in part, on the rates recommended for the corresponding resins without admixture. The existing rates range from free for those moulding compositions which were not made in Canada at the time of the earlier report, to 15 p.c. for certain compositions which were so made. For the most part, the increase in rates is intended to take into account the increase in rates recommended for the corresponding resins without admixture.

For compositions, n.o.p., and for the mixed glues or adhesives, the Board is recommending continuation of the existing rates.

For foamed and expanded plastics, the recommended rates are 15 p.c. as compared with the rates of 15 B.P., 20 M.F.N. now in effect. However, foamed scrap or waste is named in the recommended items where-as it may now enter free of duty under item *681.

Recommended items 39.01(g) and 39.02(g) combine plastics in forms that are now classified in tariff items 905, 906, 916 and 917(b), as well as certain floor and wall tile from item 908. With one exception the existing rates vary from free to 15 p.c., depending on the form and the material. For the forms and materials that came to the Board's attention as being of a kind produced in Canada, the Board is recommending rates somewhat higher than those recommended for the corresponding moulding compositions; they range from 10 p.c. to 17½ p.c. and, in the case of decorated polyvinyl chloride, plates, sheets, film, etc., to 20 p.c., M.F.N. which is the rate now applicable. Generally speaking, the rates recommended for these products are related to the rates recommended for the moulding compositions but are somewhat higher in order to maintain a "patterned rate structure".

For the forms described in 39.01(g) and 39.02(g), when made of types of resins which did not come to the Board's attention as being available from Canadian production, free entry is recommended.

In the aggregate, the rates recommended in 39.01 and 39.02 represent a very substantial increase in duties but may serve to make the duties on resins and their products conform more closely with the rates recommended for their raw materials and those prescribed elsewhere in the tariff for somewhat comparable products; in addition, they may serve to allow many of the smaller fabricators and processors to continue independent production.

Recommended ItemB.P. M.F.N. G.T.

39.03 Regenerated cellulose; cellulose nitrate, cellulose acetate and other cellulose esters, cellulose ethers and other chemical derivatives of cellulose, plasticised or not (for example, collodions, celluloid); not including vulcanised fibre:

(a) Without admixture; aqueous emulsions, aqueous dispersions or aqueous solutions, without other admixture; cellulose nitrate with not more than 35 per cent by weight of a dampening agent other than an organic solvent of paragraph (b):

1. Other than the following	Free	Free	10
2. Cellulose nitrate, dynamite grade	5	10	20
3 Sodium carboxymethyl cellulose	10	15	25

(b) In organic solvents where the weight of the solvent, except for collodions, does not exceed 50 per cent of the weight of the solution, without other admixture

$7\frac{1}{2}$ $7\frac{1}{2}$ 20

(c) Moulding compositions, n.o.p., including scrap or waste, whether or not completely formulated; such compositions in the form of not fully cured preforms for compression moulding

Free Free 10

(d) Compositions, n.o.p., composed entirely or predominantly of the cellulosic materials of paragraph (a) above or the collodions of paragraph (b) above

$7\frac{1}{2}$ $7\frac{1}{2}$ 20

(e) Admixed with other materials to form glues or adhesives packaged or in bulk

15 $17\frac{1}{2}$ 25

(f) Foamed and expanded, in logs, sheets, blocks, boards, flakes, granules, powder, shreds, scrap or waste

15 15 25

Recommended ItemB.P. M.F.N. G.T.

39.03

(Cont'd)

(g) Plates, sheets, film, sheeting, strip; lay-flat or other tubing, blocks, bars, rods, sticks, non-textile monofilament and other profile shapes imported in lengths, all produced in uniform cross-section:

1. Other than the following	Free	Free	10
2. Cellulose acetate plates, sheets, film, sheeting and strip, other than unsensitized film for use in the manufacture of sensitized photographic film	10	10	20
3. Cellulose acetate butyrate plates, sheets, film, sheeting and strip, other than unsensitized film for use in the manufacture of sensitized photographic film	10	10	20
4. Regenerated cellulose	10	15	25

The Canadian production of the materials of Recommended Item 39.03 exceeds \$50 million annually. These materials include regenerated cellulose, chemical derivatives of cellulose such as cellulose acetate and cellulose nitrate, cellulose esters, cellulose ethers and vulcanised fibre. Regenerated cellulose, cellulose acetate and cellulose nitrate are of greatest commercial importance. Vulcanised fibre is excluded from the recommended item although it is included in the corresponding heading of the Brussels Nomenclature. It is entered chiefly under tariff item *509 and to some extent under tariff items *438b and *445o(1); these three items are not within Reference 120 and would remain unchanged.

Imports of products under Recommended Item 39.03 appear to be about \$11 million and exports exceed them by a significant amount.

Regenerated cellulose is made from purified cellulose obtained from natural products such as wood-pulp and cotton, both subject to free entry under tariff items *200 and *520a. It is used to make film, meat and food casings, fibre for textiles and for other purposes.

Regenerated cellulose film, commonly called cellophane, is made from wood-pulp; purified cellulose pulp is treated with sodium hydroxide and carbon disulphide to make sodium xanthate; the xanthate is dissolved in a caustic solution to form viscose which, after purification and ripening, is extruded into an acid bath where the cellulose is regenerated as a continuous film. Carbon disulphide is subject to free entry under existing item 208 and would also be free of duty under Recommended Item 28.15; sodium hydroxide is subject to rates of 1/5 cent and 3/10 cent per pound (about 10 p.c. M.F.N.) under existing

item 210a1 and, if in solution, to rates of 15 p.c. and $17\frac{1}{2}$ p.c. under existing item 210c and to a recommendation for 10 p.c. and 15 p.c. under Recommended Item 28.17.

In Canada, regenerated cellulose film is produced in four principal thicknesses and in several different grades; most of the film is used in food packaging, the second largest use being wrappers for cigarette packages; the film is readily printed or decorated and may also be laminated with other materials such as paper or foil. There are two film producers, T.C.F. of Canada, a subsidiary of British Cellophane, and Du Pont of Canada. Chemicals account for over 60 per cent of the raw materials cost and their cost was said to be about 10 per cent higher than in the U.S.A. Productive capacity is about 65 million pounds for a market which, it was estimated, would reach 40 million pounds by 1970. About two thirds of the existing market, in excess of 30 million pounds in 1962, is supplied directly by the two producers of film and the rest is distributed through some thirty or forty converters who process the film further. Over 90 per cent of domestic requirements are supplied by the domestic producers. Exports were estimated to be 4.8 million pounds in 1964 and imports at 1.6 million pounds, largely from the Netherlands and the U.S.A. It would seem that some of the imports are of grades and categories not made in Canada. Prices in Canada are not published; they were said to vary according to quantity and to be subject to trade discounts and allowances. The price of general purpose film in Canada was represented as being 71 cents per pound compared with a laid-down price of 80.4 cents per pound for U.S. imports. The average value of imports in 1964 was 58 cents per pound from the Netherlands and 64 cents per pound from the U.S.A.

Some regenerated cellulose food casings are reinforced with a stronger material; others are not. The basic raw material is cotton; apart from the inclusion of supporting material, the process of manufacture is virtually the same for the two types. Food casings are produced in flattened widths ranging from less than one inch to about 12 inches; the cellulosic raw materials for this purpose were said to be available in the required grades only from the U.S.A. The sole Canadian producer of food casings is the Visking Division of Union Carbide Canada Limited. There are no published statistics; there are both imports and exports and the domestic market is concentrated in Ontario and Quebec, almost exclusively in the meat industry.

Regenerated cellulose in its various forms is entered at rates of 15 p.c. and 20 p.c. under tariff item 918 and at the same rates, under tariff item 711, for the reinforced meat casings. The three submissions dealing with regenerated cellulose proposed continuation of the rates of 15 p.c. and 20 p.c. Smaller scale of production compared with the U.S.A. and higher labour costs than other foreign countries were urged in support of the proposed rates; higher raw material costs were also urged. The industry has exhibited steady growth, buoyant prices and significant exports; imports are less than 10 per cent of domestic requirements; in 1963 and 1964 imports declined.

In these circumstances, the Board recommends rates of 10 p.c. and 15 p.c., rates which correspond with those recommended for many chemicals of a kind produced in Canada.

Cellulose acetate, a thermoplastic material, is produced by treating cellulose (wood-pulp or cotton linters) with acetic acid and acetic anhydride in the presence of a catalyst; wood-pulp is now entered free of duty under both tariffs under tariff item *200 as are cotton linters under tariff item *520a; crude acetic acid is now entered under tariff item 214 at rates of 15 p.c. and $22\frac{1}{2}$ p.c. and other acetic acid and acetic anhydride are entered under tariff item 213 at specific rates of 10 cents and $12\frac{1}{2}$ cents per gallon, plus $1\frac{1}{2}$ cents B.P. and $1\frac{3}{4}$ cents M.F.N. for each degree of strength exceeding six per cent; under Recommended Item 29.14 both acetic acid and acetic anhydride would bear rates of 10 p.c. and 15 p.c. Cellulose acetate is used principally in the production of synthetic fibre, of plastic film and sheeting and of moulding powder; the largest use in Canada is in the making of rayon fibre; increasing amounts have been used in cigarette filters. It exists in two grades, rayon and plastic; only the rayon grade is made in Canada by Chemcell (1963) Limited. Cellulose acetate moulding compounds are produced in Canada from imported plastic grade flake; the applications of the moulding compound are not extensive; it has tended to give way to other plastics. Statistical data on production and shipments of the rayon grade are confidential; captive use and exports account for nearly all the domestic production. In 1964 and 1965 the production of moulding compounds was estimated at about 200,000 pounds, a decline from 300,000 pounds in 1963. Imports of cellulose acetate, including flake, compounds, and film and sheet, amounted to some 7 million pounds valued at about \$5 million in 1962 and 1963 and declined in 1964 to 6.4 million pounds valued at \$4.8 million.

Cellulose acetate film and sheet were not made in Canada at the time of the hearing but production was reported to have started in 1965. Imports in 1964 amounted to more than 2.8 million pounds valued at about \$2.8 million. Cellulose acetate photographic base film is not produced in Canada and, in 1964, imports were about 776,000 pounds valued at \$1,181,000, all from the U.S.A.

Cellulose acetate is entered chiefly under the following tariff items: as a resin without admixture under 909(a)2, free of duty; as resins in organic solvents under 909(c)2, at 10 p.c.; as moulding compounds under 910, free of duty; as compositions with other materials n.o.p. under 911, at 10 p.c.; as plates, sheets, etc., not less than 6 inches in width under 912, free of duty and if less than 6 inches in width under 913(b), at 15 p.c.; as blocks, bars, etc., under 913(b), at 15 p.c.; if foamed or expanded under 914, at 15 p.c. and 20 p.c.; as manufactures, n.o.p. under 915(c) at 15 p.c. and 20 p.c.; as laminated moulded plastics products, n.o.p., under 916, at 15 p.c. under both tariffs; as reinforced or supported plastics, under 917 if interlined sheet stock cemented to cotton fabric, at 10 p.c., B.P. and 15 p.c., M.F.N., otherwise, at 15 p.c., under both tariffs; and also under 326d, 446f, 577, 822, 924a and 924c for special purposes or in special products. Chemcell proposed continued free entry for the flake. Most other proposals sought that there be no increases; the British Plastics Federation proposed continued preferential treatment where possible. Two photographic companies, Kodak and Ansco, sought specific provision for free entry of photographic base film. The motion picture interests urged that tariff item 915(b) be changed to cover cellulose acetate film instead of cellulose nitrate film because the acetate has now replaced the nitrate

for this purpose. Chemcell saw no need for protective rates on its flake production. The British Plastics Federation urged caution against unneeded protection which would raise the costs of moulders and fabricators. Except for the Federation's proposals of general principle, no representations were made on the products covered by items 326d, 577, 914, 915(c) and 917(a) and (b). Though one of the proposals concerning photographic base film covered both sensitized and unsensitized film, only the latter appears to be within the scope of the Reference.

For cellulose acetate the Board recommends: when without admixture other than water, continued free entry; when in organic solvents, $7\frac{1}{2}$ p.c., a reduction in rate which takes into account the recommended reduction in rates on many solvents and the reduction in solvent content; as a moulding compound, continued free entry; when admixed with other materials to form a glue or adhesive, 15 p.c., B.P. and $17\frac{1}{2}$ p.c., M.F.N.; in the form of other compositions, $7\frac{1}{2}$ p.c., thus taking into account the recommended reduction in rates of many of the substances which may enter into such compositions; as plates, sheets, film, tubing, bars, rods, profile shape of uniform cross-section and other similar forms, without distinction in width, 10 p.c., except unsensitized film for use in the manufacture of sensitized photographic film which would be free of duty under paragraph (g)1 of the recommended item.

Cellulose nitrate (collodion cotton, cotton solution, gun cotton, nitrocellulose, nitrocotton) is obtained by treating cellulose (wood-pulp or cotton linters) with a mixture of nitric and sulphuric acids; wood-pulp, under tariff item *200 and cotton linters, under tariff item *520a, are entered free of duty under both tariffs; sulphuric acid is now entered at rates of $17\frac{1}{2}$ p.c. and $22\frac{1}{2}$ p.c. under tariff item 217 and is subject to a recommendation of 10 p.c. and 15 p.c. in Recommended Item 28.08; nitric acid, varying with grades is subject to rates of Free and 15 p.c. or 15 p.c. and 20 p.c. under items 216 or 711 and to a recommendation for 10 p.c. and 15 p.c. under Recommended Item 28.09. Cellulose nitrate has a variety of uses which require differences in nitrogen content. Broadly speaking, cellulose nitrate with 13 per cent nitrogen is used for explosives; that with 12 per cent is used for lacquers, photographic film and plastics; that with 11 per cent is used in plastics; when plasticized with camphor in the presence of alcohol it produces celluloid. Though tough and easy to produce, cellulose nitrate plastic is not adaptable to compression or injection moulding because of its sensitivity to heat; however it is extruded in sheets, rods and tubes. Solutions in a mixture of ether and alcohol are known as collodion. Commercially, it is available in solution, smokeless and dynamite grades; only the dynamite grade is produced in Canada by one producer, C.I.L., for use only in the production of nitroglycerin explosives; for this use, capacity is adequate. The manufacture in Canada of the non-dynamite, or industrial grades was said to be improbable; growth prospects were discouraging because of the development of substitutes. Published data on cellulose nitrate are not available; all C.I.L.'s production is captive for the production of explosives. In 1964, imports, other than explosive grade, were over 6 million pounds, valued at nearly \$2 million; they are almost all from the U.S.A. The major user is the paint and varnish industry. In sheet form, the imports were estimated at about 50,000 pounds in recent years. At present, cellulose nitrate

of the higher nitrate content is entered as an explosive under tariff item 666 at $1\frac{3}{4}$ cents and $2\frac{1}{4}$ cents per pound; the specific rates are equivalent to about 4.8 p.c. and 6.3 p.c. ad valorem; for the lower nitrogen content grades (containing not more than 12.2 per cent nitrogen), entry is under tariff items 909(a)1 and 909(b), free of duty, and 909(c)1 at 10 p.c. Cellulose nitrate is also entered under the following tariff items: 911, as compositions of esters or ethers of cellulose with other materials, n.o.p., at 10 p.c.; 912, as cellulose plastics plates, sheets, film, etc. or lay-flat tubing, not less than 6 inches in width or circumference, free of duty; 913, as cellulose plastics plates, sheets, film, etc., or lay-flat tubing, less than 6 inches in width or circumference, and other tubing, blocks, bars, rods, shapes, etc., not further manufactured than moulded, cast, calendered, extruded or pressed, n.o.p., free of duty; 915(a), as manufactures of cellulose plastics, n.o.p., 10 p.c. and 20 p.c. C.I.L., the producer of the dynamite grade, proposed 15 p.c. and 20 p.c. for this grade and free entry for other than dynamite grade "when used with not more than 35 per cent by weight of a dampening medium, without other admixture"; for the non-dynamite grade this proposal was generally supported by others. Both Canadian Kodak and the Motion Picture Association deemed tariff item 915b, which provides for cellulose nitrate photographic film, to be obsolete because such film is now made from cellulose acetate. There was general agreement on the criterion of 35 per cent for the dampening agent content. However it was represented that the existing division with respect to nitrogen content was inadequate because there are now types of dynamite grade with less and non-dynamite grade with more. C.I.L. proposed the use of the term "dynamite grade."

For cellulose nitrate of dynamite grade the Board recommends rates of 5 p.c., B.P. and 10 p.c., M.F.N., somewhat more than the ad valorem equivalent of the present specific rates on existing imports, and for other grades, free entry when without admixture except water or certain dampening agents; $7\frac{1}{2}$ p.c., when in organic solvents, if the solvent does not exceed 50 per cent of the weight of the solution, or when in the form of collodion to take into account the recommended reduction in solvent content and in the rates on many solvents; and free entry when in such forms as sheets, film, strip, tubing, blocks, bars and other profile shapes of uniform cross-section.

Cellulose acetate butyrate is a cellulose ester, available in flakes or granules, which is convertible to plastic film, sheet and moulded objects; the resin and moulding powders are not produced in Canada; imports of the resins and moulding powders, all from the U.S.A., in 1964, were 1,647,000 pounds valued at 1,040,000 dollars; of these imports some \$22,000 were in organic solvent for use in the paint industry. Cellulose acetate butyrate is largely entered under the following tariff items: 909(a)3, free of duty; 909(c)3, at 10 p.c.; 910 and 912, free of duty; 911, at 10 p.c.; 913(b), at 15 p.c.; 915(c), at 15 p.c. and 20 p.c.; 924a, at 10 p.c. and 924c, free of duty. Canadian General-Tower Ltd., a manufacturer of vinyl type products, the paint interests, Canadian Buttons Ltd. and the British Plastics Federation proposed continuation of the free entry now provided under 909(a)3 for the product without admixture and 910 for its moulding compositions. The photographic interests also sought free entry for photographic base film, as for cellulose acetate. As for cellulose acetate, the Board recommends: free entry for the product without

admixture, or in moulding compositions, or as non-sensitized photographic film; $7\frac{1}{2}$ p.c. when in organic solvents; and 10 p.c., when in the form of plate, sheets, film, sheeting or strip.

Cellulose propionate is available in pellets for injection and extrusion moulding; it is not made in Canada. The only submission dealing with it was from Northern Electric, a manufacturer of telephone housings and parts. Cellulose propionate, in this use, is interchangeable with and being replaced by ABS (acrylonitrile-butadiene-styrene) resin. Northern Electric proposed continued free entry. For cellulose propionate, without admixture, the Board recommends free entry.

Carboxymethylcellulose (sodium carboxymethylcellulose; CMC; sodium cellulose glycolate; cellulose gum) is produced in Canada by Chemical Developments of Canada Limited, a division of Domtar Chemicals Limited. There are two principal consumers: the makers of soaps and cleaning compounds which reported consumption of about 844,000 pounds valued at more than \$206,000 in 1957 and the paint interests which consumed 29,000 pounds valued at \$24,000 in the same year, making a total of 873,000 pounds valued at \$230,000. By 1963 this total had risen to 1.5 million pounds with a value of \$419,000. In 1963 imports were estimated at \$685,000. Subject to end-use items *492a, *492d and *848b, which are not part of Reference 120 and which would remain unchanged, imports are entered principally under tariff item 711 at rates of 15 p.c. and 20 p.c. Chemical Developments proposed continuation of these rates. For sodium carboxymethyl cellulose, as for many industrial chemicals now classified in tariff item 711, the Board recommends the rates of 10 p.c., B.P. and 15 p.c., M.F.N.

Ethyl cellulose, an ethyl ether of cellulose, is available as granules. Soluble in several organic solvents, it is quite insoluble in water. It is used in injection moulding, sheeting, cast film, protective coatings, etc. It is not produced in Canada and is imported, largely from the U.S.A.; Canadian consumption has been estimated at about 70,000 pounds annually; in 1961 the plastic fabricators consumed about 50,000 pounds and the paint interests about 17,500 pounds. Imports in 1963 were estimated in excess of 700,000 pounds valued at \$515,000. It is largely entered under the following tariff items: 909(a)5, free of duty; 909(c)5, at 10 p.c.; 910, free of duty; 911, at 10 p.c.; 912, free of duty; 913(b), at 15 p.c.; 915(c), at 15 p.c. and 20 p.c. Three submissions were made all proposing continued free entry as under existing item 909(a)5.

Ethyl hydroxyethyl cellulose (cellulose ether), commonly known as EHEC, is available in granular solid form and in viscous form. It is soluble in organic solvents but not in water. It is used in silk screen and gravure printing inks and in protective coatings. It is not produced in Canada and is chiefly imported under tariff item 909(a)7, free of duty. One submission proposed continued free entry.

Hydroxyethyl cellulose is a water soluble powder. It is used to produce film, as a thickening and suspending agent and as a stabilizer for vinyl polymerization. It is not produced in Canada and is imported under tariff item 208t at rates of free and 15 p.c. Free entry was proposed by Harrisons and Crosfield, an importer.

Methyl cellulose, a powder, is soluble in water. It is used as a thickener and stabilizer in paints, as an emulsifying and sizing agent and as an adhesive. It is not produced in Canada. The value of annual usage by the paint industry was said to be close to \$100,000, the major source of its supply being the U.S.A. It is entered under tariff item 208t at Free and 15 p.c. The paint interests and Harrisons and Crosfield proposed free entry.

For ethyl cellulose, ethyl hydroxyethyl cellulose, hydroxyethyl cellulose and methyl cellulose in their various forms the Board recommends the tariff treatment prescribed in the appropriate paragraphs of the recommended item for substances not enumerated eo nomine.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
39.04 Hardened proteins (for example hardened casein and hardened gelatin)	Free	Free	10

This Recommended Item would cover only proteins hardened by chemical process.

Proteins are complex nitrogenous compounds of animal or vegetable origin. They are suitable for processing into plastics but few of the plastics derived from proteins are of commercial importance.

Casein plastic is made from paracasein (prepared from fresh skim milk and rennet) with water, pigment, plasticizer and alum, and pressed or extruded to form thermoplastic sheets or rods; the end products are usually moulded before hardening with formaldehyde which converts the casein to a thermosetting condition.

Strips, rods and button blanks of protein plastics are made in Canada for captive use by one producer, Canadian Plastics Limited, a subsidiary of Canadian Buttons Limited, Montreal, Quebec. Statistical data are not available although it appears that small quantities of protein plastic strips and rods are imported from Britain, the U.S.A. and Holland, at landed prices said to be slightly higher than the domestic prices.

Hardened proteins are now entered free of duty under tariff item 919 while their manufactures are subject to rates of 15 p.c. and 20 p.c. under tariff item 920. The latter include button blanks for which the Canadian producer urged continuation of the present rates.

Gelatin can also be hardened with formaldehyde and made into sheets or rods. Hardened gelatin appears to be of minor commercial importance.

For the products of Recommended Item 39.04 the Board recommends continued free entry on both the B.P. and M.F.N. Tariffs.

This Recommended Item would include also hardened collagen used as sausage casing.

Recommended ItemB.P. M.F.N. G.T.

39.05 Natural resins modified by fusion
 (run gums); artificial resins
 (obtained by esterification of
 natural resins or of resinic acids
 (ester gums); chemical derivatives
 of natural rubber (for example,
 chlorinated rubber, rubber hydro-
 chloride, oxidised rubber, cyclised
 rubber):

(1) Other than the following	Free	Free	10
(2) In organic solvents, where the weight of the solvent does not exceed 50 per cent of the weight of the solution, with- out other admixture	7½	7½	20
(3) Compositions, except moulding compounds, composed entirely or predominantly of the resins and the derivatives of natural rubber	7½	7½	20
(4) Sheets, film, sheeting, strip; lay-flat or other tubing pro- duced in uniform cross-section	10	10	20

This Recommended Item would provide for resins obtained by the modification of the molecular structure of certain naturally occurring resinous substances. Those of commercial importance are not produced in Canada; imports, largely for paint and varnish use, amount to about \$3 million annually.

Chlorinated rubber is obtained by modifying the properties of natural rubber with large amounts of chlorine. It is used in protective coatings, adhesives, printing inks and textile impregnation. It is not made in Canada. Domestic requirements amount to some 400,000 pounds valued at \$200,000 and originate largely from Britain and the U.S.A. Most of the imports are used by the paint industry. Chlorinated rubber is entered free of duty as synthetic resins without admixture under tariff item 901(a)9 or in the form of aqueous emulsions, dispersions or solutions, without admixture, under tariff item 901(b)8. When in organic solvents, without admixture, where the solvent is not more than 60 per cent by weight, it is subject to rates of 10 p.c., B.P. and 10 p.c., M.F.N. under tariff item 901(c)5. All proposals were for free entry.

Ester gum is a glycerol ester of rosin obtained by the esterification of natural resins with polyhydric alcohols. It is used in paints, varnishes and lacquers. When produced by steam distillation, it is used in chewing gum. All the Canadian requirements are supplied by imports, largely from the U.S.A. and there are no known imports from countries entitled to the B.P. Tariff. The largest single user appears to be the paint industry. In 1964, imports from the U.S.A. were close to 4 million pounds valued at a little less than \$1 million.

Synthetic chewing gum base was the subject of one submission. It is not made in Canada and imports are mostly from the U.S.A. The material was said to be similar to natural gum, in particular to chicle, but its exact nature was not disclosed. It was described as consisting of compounds in chief part synthetic resins which fall under end-use tariff item 904a at a rate of 5 p.c., B.P. and 5 p.c., M.F.N. The submission urged continuation of the present rate of 5 p.c.

The other products of this Recommended Item would include cyclised rubber, glycerol esters of hydrogenated rosin, oxidized rubber, pentaerythritol esters of rosin, of hydrogenated rosin and of polymerized rosin, rubber hydrochloride and run gum, and other resins derived from natural resin or tall oil. The products of this recommended item are entered in various forms under different existing items: when without admixture or in aqueous solution they are free of duty under existing items 901(a)7, 901(a)9, 901(b)7, or 901(b)8; when in organic solvent where the mixture is not more than 60 per cent by weight, without other admixture, they are dutiable at $12\frac{1}{2}$ p.c. under 901(c)4; if they should be imported in powder or granular form mixed with an anti-caking ingredient they would be entered at 10 p.c. under 901(d)2; when in the form of moulding compositions, materials for processing into moulding compositions, or not fully cured preforms or not fully cured blanks for compression mouldings, they are free under existing item 902(f); when in the form of plates, sheets, film, sheeting, or strips or tubing, if not less than 6 inches in width, they are entered free of duty if plain, uncoated and undecorated, under item 905(f)1 (otherwise under item 905(f)2 at 10 p.c. under both Tariffs), and when less than 6 inches in width, under 906(e) at 15 p.c. under both Tariffs; when in the form of mixtures not otherwise provided for they are in item 904 at 15 p.c. under both Tariffs.

Other than support for the Industry Committee's proposed rates of 15 p.c. and 20 p.c. by Reichhold Chemicals (Canada) Limited as a prospective producer of resins of this Recommended Item, the proposals were for maintenance of the existing rates.

The Board has followed the same general structure in its recommendations as in the four preceding items. For the products of this Recommended Item in organic solvents, where the weight of the solvent does not exceed 50 per cent of the weight of the solution, without other admixture, the Board recommends rates of $7\frac{1}{2}$ p.c., under both Tariffs. For the compositions, except moulding compounds, composed entirely or predominantly of the resins and the derivatives of natural rubber, similar rates of $7\frac{1}{2}$ p.c. are recommended. For the sheets, film, sheeting, strip, lay-flat or other tubing produced in uniform cross-section, rates of 10 p.c., B.P. and 10 p.c., M.F.N. are recommended. For all the other products of Recommended Item 39.05, the Board recommends duty-free entry.

Recommended ItemB.P. M.F.N. G.T.

- 39.06 Other high polymers, artificial resins and artificial plastic materials, including alginic acid, its salts and esters; not including other vegetable saps and extracts, pectic substances, pectinates and pectates, agar-agar and other mucilages and thickeners derived from vegetable products, albuminoidal substances, glues, nor linnoxyn:

(1) Other than the following	Free	15	25
(2) Alginic acid salts	Free	Free	15
(3) Heparin sodium	10	15	25

This Recommended Item would provide for high molecular weight polymeric substances not included in the preceding Recommended Items. They do not appear to have great commercial significance in Canada with the exception of lignin resins, heparin and alginates.

Alginic acid and its derivatives are covered by the term "algin". The acid is a powder soluble in water but insoluble in organic solvents. Of the algin, only the salts are produced in Canada; the acid is made as an intermediate in the process but not as a finished product. The algin is used as stabilisers, thickeners, binders, film formers, paper sizes and jelling agents; they also enter into some food products. Alginate salts, including ammonium, calcium, potassium and sodium are made in Canada by only one producer, Scotia Marine Products Ltd., Lower Wood Harbour, Nova Scotia, a wholly-owned subsidiary of Kelco Company, U.S.A.; it extracts the acid from rock-weed and reacts it with the specific salt to produce the alginate; it does not produce the alginic acid nor the propylene glycol ester of alginic acid. Natural gums, which are not produced in Canada, and certain materials of Recommended Item 39.03 such as carboxymethyl cellulose, hydroxyethyl cellulose and methyl cellulose were said to compete with algin. There being only one producer, published data on production and market are not available; it was represented that one-third of the market is supplied by imports from Britain, Norway and France; the company was said to import algin from its parent company in the U.S.A. for resale in Canada. Imports of propylene glycol alginate were estimated at about \$200,000 in 1962 but declined to \$40,000 in 1963. Imports of alginic acid and its salts would likely increase the amount of imports significantly. The algin is imported under tariff items *141, as sweetened gums at 12½ p.c. and 22½ p.c.; 208t, as chemicals of a kind not produced in Canada at Free and 15 p.c.; 216, as an acid of a kind not produced in Canada at Free and 15 p.c.; and *254(4), as gums and blends, free of duty. Tariff items *141 and *254(4) are not in Reference 120 and would remain unchanged. The Kelco Company proposed free entry for algin "when not made in Canada" and rates of 15 p.c. and 20 p.c. "when made in Canada"; for the competitive materials of Recommended Item 39.03, the Company also proposed rates of 15 p.c. and 20 p.c.

Heparin sodium, commonly called heparin, is a sodium salt of a complex organic acid; it is a powder, having the properties of a polymer, used to prolong the clotting time of blood and derived from animal livers and lungs. Heparin calcium and heparin potassium are also referred to as heparin but they are of minor commercial importance. Heparin sodium is made in Canada by only one producer who sells it in bulk form to pharmaceutical manufacturers and in packages on a custom basis. It is used almost entirely in medicine as an anticoagulant. Since there is only one manufacturer, statistical information is confidential. Imports of heparin sodium in 1962 were valued at \$70,000, largely from the U.S.A. and Britain. The domestic producer supplies part of the domestic market and exports to various countries. Prices, represented as being within a 10 cent variation throughout the world, are approximately \$1.40 to \$1.50 per 100,000 units, about one gram. Heparin is now entered under tariff item 711 at rates of 15 p.c. and 20 p.c. It may also be entered free of duty under end-use items *206c(1), *206c(2) and *206d. These end-use items are not within the scope of Reference 120 and would remain unchanged. The producer proposed continued rates of 15 p.c. and 20 p.c. and the elimination of duty-free entry of heparin in bulk under end-use item *206d. Although the producer appears to have sufficient capacity to supply the Canadian market, a large portion of it seems to be supplied by duty-free imports.

Lignin resins are not made in Canada and are used in the manufacture of hardboard. They may be entered free of duty under tariff item 203. Increase in duty was opposed by the Canadian Pulp and Paper Association. Imports in 1958 amounted to \$115,000.

Other products of this Recommended Item on which no representations were made include: etherified and esterified starches, chitin, dextran (macrose), glycogen (animal starch; liver starch) and linoxyn (which would remain in Item *277). There are no data before the Board on these products.

For the alginic acid salts, now free of duty under tariff item *254(4), not within the scope of this Reference, the Board recommends relocation with continued duty-free entry. For heparin sodium, made in Canada, the Board recommends rates of 10 p.c., B.P. and 15 p.c., M.F.N. For the other products of Recommended Item 39.06, which would include lignin resins, propylene glycol alginate and alginic acid, the Board recommends continuation of the rates of Free, B.P. and 15 p.c., M.F.N.

<u>Recommended Item</u>	<u>B.P.</u>	<u>M.F.N.</u>	<u>G.T.</u>
39.07 Articles of materials of the kinds described in Recommended Items 39.01 to 39.06, n.o.p.	20	20	30

This Recommended Item is intended to provide for products in a more advanced stage of manufacture than those which would be covered by Recommended Items 39.01 to 39.06 inclusive and for which there would not be more specific provision in the Canadian Customs Tariff.

The secondary plastics industry may be considered to include the moulders, extruders, high pressure laminators, plastics film producers and converters, reinforced plastics fabricators, producers of plastics articles and the firms that process plastics. In 1964, there were said to be 310 fabricators and about 1100 concerns in other industries engaged in the manufacture of plastics products; their employment was estimated at 15,600; they use most types of resins in such forms as pills, granules, sheets, pastes, liquids and expandable pellets. The secondary plastics industry is situated mostly in Ontario and Quebec but is also important in British Columbia and Alberta. Sales are confined largely to the domestic market. In 1964, the Canadian market was valued at \$444 million, the domestic production at \$340 million and the imports at \$104 million. Exports are believed to constitute a small part of the total sales.

The products of Recommended Item 39.07 are now subject to several tariff items and various rates of duty: Free of duty under 326d, 326q, 663b, 791, *924; Free and 5 p.c. under 654a; Free and $7\frac{1}{2}$ p.c. under 660a; Free and 15 p.c. under 326f; Free and 20 p.c. under 577; $7\frac{1}{2}$ p.c. and $7\frac{1}{2}$ p.c. under 924b; 10 p.c. and 10 p.c. under 660b and 915(b); 10 p.c. and 20 p.c. under 915(a); 15 p.c. and 15 p.c. under 916; 15 p.c. and 20 p.c. under 658b, 711, 908, 915(c), 920.

There appear to be some problems arising out of differences between the Brussels Nomenclature and the existing tariff as to the dividing lines between primary and further manufactured forms of synthetic resins and plastics. Nevertheless, it was suggested that a recommended item worded like B.T.N. heading 39.07 would tend, in the context of the entire Canadian Customs Tariff, to approximate closely the existing items for the manufactured plastics articles and products referred to the Board.

Some of the proposals concerned the heading as a whole; others, particular manufactured plastics products. The resin producers urged rates of 25 p.c. and 30 p.c. -- a substantial increase over those now prevailing. The Moulders and Extruders Division of the Society of the Plastics Industry proposed rates of 30 p.c. and 40 p.c. -- double the highest existing rates -- provided free entry was maintained for the resins or primary materials; if the rates on the resins or primary materials were to be increased, it was proposed that those on the further processed forms and products should be at least 30 percentage points higher. This large spread was claimed to be necessary to improve an inadequate profit position and to ease amortizing the cost of moulds over shorter runs than those of U.S. competitors. Nearly 70 per cent of the plastics raw materials used by the moulders and the extruders are of domestic sources, most of the remainder from the U.S.A. because of unavailability in Canada, prices and other factors. Though the resin producers opposed free entry of their products, they were generally prepared to agree to equitable tariff treatment for their consumer-customers. Rates of duty on plastics products in the U.S.A. were said to be equal to those proposed for Canada.

The proposed increases on plastics products were opposed by many on the grounds that increased rates would reduce the competitive position of plastics products in relation to non-plastic products and that they did not take into account goods which are specifically

provided for in the Customs Tariff under items not in the Reference, such as those which apply to footwear, coated fabrics, gloves, etc. Some companies objected strongly to increases in the rates now applicable to the resins, moulding materials and other materials used by converters.

Plastic bags were also the subject of representations. Some 50 companies, employing 1500 to 2000 people, were said to produce plastic bags in Canada. Factory shipments were valued at more than \$25 million in 1961 and at \$28 million in 1962. Imports were not significant but fear was expressed that price changes in the U.S.A. might result in greater imports. There have been some exports but Canadian costs will probably prevent them from becoming a significant part of the Canadian production. Plastic bags are now dutiable at 15 p.c. and 20 p.c. under tariff items 908 and 918(c), though for certain uses they are free of duty under tariff items 663b and 791. Union Carbide Canada Limited proposed rates of 15 p.c. and 20 p.c. for polyethylene bags with a minimum rate of 8 cents per pound under both Tariffs. The Company had also proposed rates of 15 p.c. and 20 p.c. for polyethylene film. Canadian Industries Limited opposed the free entry of plastic bags under any end-use provisions and proposed rates of 15 p.c. and 20 p.c. on regenerated cellulose bags and an M.F.N. rate of 30 p.c. on all other industrial plastic bags without making a submission for a B.P. rate. The Company had proposed an M.F.N. rate of 25 p.c. on film. Consolidated Mining and Smelting Company urged continuation of free entry of plastic bags for agricultural end-use. At the hearing on fertilizers, C.I.L., Dow Chemical, Du Pont and Union Carbide registered their objection to the free entry of polyethylene bags used in packaging fertilizers.

Several other representations were made to the Board concerning various plastics products such as vinyl clothing, styrene beads, polarizing plastic sheet, plastic pump-type dispensers and plastic films coated with iron oxide for use in videotape and instrumentation tape. These films were said to include polyester, cellulose acetate and polyvinyl chloride. Videotape and instrumentation tapes are not made in Canada and are subject to rates of 15 p.c. and 20 p.c. under tariff item 658b; instrumentation tapes are also dutiable at rates of 15 p.c. and 20 p.c. under tariff items 908 and 915(c). In 1962, the Canadian market for videotape and instrumentation tapes amounted to \$600,000, about 95 per cent supplied by the U.S.A., the remainder by Britain. Although it would prefer free entry because of lack of domestic production, Minnesota Mining and Manufacturing of Canada Limited proposed rates of 5 p.c. and 10 p.c. because of the difficulty of distinguishing videotape and instrumentation tapes from sound recording tapes now dutiable at those rates under tariff item *595(2), not in Reference 120. The Canadian Association of Broadcasters requested free entry under both Tariffs for the videotape now entered under tariff item 658b.

A few submissions were received on products apparently not within the Board's terms of Reference. As already noted, the dividing lines between semi-finished and finished goods are not necessarily the same in the B.T.N. and the existing Canadian Tariff.

For the magnetic recording tape of tariff items 658b, 908 and 915(a), the Board recommends rates of 5 p.c. and 10 p.c. if unrecorded, and rates of 15 p.c. and 20 p.c. if recorded, under Recommended Item R-30. For all the other products of Recommended Item 39.07, the Board recommends rates of 20 p.c. and 20 p.c. under the B.P. and M.F.N. Tariffs.

As in its previous report on plastics, the Board is recommending a "patterned rate structure" which it considers desirable to protect the interests of the smaller processors. Generally, the rates on partly finished products afford no margin of preference. Retention of the five per cent margin on the finished products of existing item 908, while maintaining a rate of 20 p.c. under the Most-Favoured-Nation Tariff, would have involved the imposition of higher preferential rates on some intermediate products than those accorded to the finished articles. Though the letter of Reference from the Minister of Finance says that "no general change in preferential margins is contemplated", the Board, because the area of plastics in the Customs Tariff is generally without such preference, has deemed this to be a place where an adjustment in margins of preference should be made. Accordingly it recommends that the British preferential rate be increased to 20 p.c. and that the most-favoured-nation rate remain at 20 p.c. as it now is in existing items 908, 915(c), 918(c) and 920. In its recommendation, the Board has thus preserved the existing ceiling of 20 p.c. in the area of plastics which it considers to be appropriate. Had it recommended that the margin of preference be maintained, it would, with some reluctance, have recommended some lower rates on some of the intermediate products in order to preserve the patterned rate structure.

<u>Recom- mended Item</u>	<u>Goods</u>	<u>When Subject to Drawback</u>	<u>Portion of Duty Payable as Drawback</u>
R-41	Ethyl alcohol	Under the conditions specified in the Excise Act for drawback of Excise duty had such alcohol been manufactured in Canada and sold or used in Canada...	99 p.c. of the additional duty imposed by the last part of paragraph (c) of Recommended Item R-3 156(7)

This Recommended Item is discussed in the antepenultimate paragraph of the Summary and Conclusions of Recommended Items R-2 and R-3.

R-42	1026 - Materials	When used in the manufacture of containers for packaging the products entitled to entry under Recommended Item 38.11...	99 p.c.
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This Recommended Item would continue the provisions of existing drawback item 1026, without change other than the necessary change of Tariff Item 219a to Recommended Item 38.11. To the extent that Recommended Item 38.11 may be broader than existing item 219a the drawback provision for materials used in the manufacture of containers would be correspondingly broadened.

R-43	1046 - Materials	When used in the manufacture of goods entitled to entry under Recommended Item R-31 663b when such goods are sold to manufacturers to be used as specified in said item...	99 p.c.
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This Recommended Item would continue the drawback provisions of existing item 1046 with respect to materials for use in the manufacture of the goods which enter into the cost of manufacture of fertilizer, as specified in Recommended Item R-31 663b. To the extent that R-31 663b may be broader than existing item 663b, the drawback provisions would be correspondingly broadened.



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